An Address
ON
GASTROSTAXIS, OR OOZING OF BLOOD FROM THE MUCOUS MEMBRANE OF THE STOMACH.

Delivered before the Torquay Medical Society on Oct. 12th, 1906,

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GENTLEMEN,—A few generations ago physicians taught that blood might come from the gastric mucous membrane although after death no source for the bleeding could be found. For example, Latour[1] says that Portal, Franck, Hoffmann, Vanswieten, Baldinger, Warton, and others have observed that among those who have died from gastro-intestinal hæmorrhage the mucous membrane of the stomach and intestine may not show any lesion from which the blood came. Dalché[2] says that such cases are commoner in virgins and that the hæmorrhage is most usual in the spring time and autumn, and he mentions that after death there may be no erosion of the internal surface of the stomach. Sir George Burrows[3] says: "Hæmatemesis independent of any apparent change of structure in the mucous membrane of the stomach or in any organ capable of influencing the circulation through that membrane is certainly rare, although the writer believes he has met with several such cases." He later speaks of such cases as usually occurring in women between 30 and 40 years old. The hæmatemesis alluded to in the above quotations was frequently ascribed to vicarious menstruation. Thus Sir George Burrows in the same article says: "Vicarious or suppressed menstrual or hæmorrhoidal discharge. This is certainly the most common variety of what has here been termed constitutional hæmatemesis, particularly in females." He says vicarious menstruation may continue for months or years apparently without injury to the constitution. Cullen, he states, affirms that it is hardly ever dangerous. Some of the older authors were much impressed with the fact that these hæmorrhages were especially common at certain periods of the year. Thus Lordat[4] quotes the case, published in 1701 by Helwich, of a woman who was 40 years old. She had borne several children; every year in the spring, at the end of the summer, and in the autumn she brought up a quantity of blood for four days. I may say at once that in the cases I have collected myself which form the basis of this address and in all of which the interior of the stomach was either seen during life owing to operation or after death, the details of dates are not sufficiently precise for it to be possible to say whether these hæmorrhages occur more at one time of the year than another. Many writers who published their cases earlier than about 50 years ago speak of hæmatemesis as vicarious in both sexes to bleeding from piles, but there is nothing surprising in this, for both piles and bleeding from the stomach are results of cirrhosis of the liver and it may well be that the cases which they describe were examples of cirrhosis of the liver and therefore we need not allude to this again.

Ashwell[5] regarded chlorosis as connected with amenorrhœa and stated that "a vicarious discharge of blood from the stomach by vomiting is not an unusual concomitant of protracted chlorosis and amenorrhœa." The possible association with chlorosis is alluded to by Leube[6]; he says: "In many cases the most careful examination fails to reveal the source of the hæmorrhage," and "It is well known also that in cases of chronic amenorrhœa regularly recurring hæmorrhages accompanied by molimina mensium may occur in the stomach as well as in other organs. Still, the discoveries of Cohnheim in regard to congestion, stasis, &c., have shown the necessity of caution in our interpretation of these hæmorrhages from collateral fluxion. It becomes necessary to inquire therefore whether such congestive hæmorrhages may not be due to a morbid deficiency of resisting power on the part of the vessels, and, above all, whether in cases of vicarious menstruation an important part of the causation of the hæmorrhage may not be played by the chlorosis which itself produces a fatty metamorphosis of the walls of the vessels." Habershon[7] less than 40 years ago had no doubt that hæmatemesis might replace menstruation. Warren[8] speaks of idiopathic hæmatemesis independent of any change in structure of the gastric mucous membrane, and in 1882 Hind[9] recorded the extraordinary case of a woman, aged 46 years, who vomited blood regularly once a week for nine years.

Gradually most physicians began to doubt whether hæmatemesis ever replaced the menstrual flow but as late as 1897 Oser[10] says: "Kuttner has from the material of my poliklinik shown that in women vicarious bleeding into the stomach in place of menstruation or bleeding associated with menstruation may occur," and vicarious menstruation is alluded to in a doubtful way as possible by some authors even now, although many text-books do not mention it, and the general belief of the profession is that it does not occur. But then this difficulty arose, if these numerous cases of hæmatemesis are not due to vicarious menstruation what can be their cause? I am sorry to say the medical profession was not content to say that it did not know their cause, but said, Let us suppose they are due to ulcer, and accordingly it was stated that gastric ulcer was much commoner in women than men, and whenever a young woman vomited blood she was, unless some other obvious cause for it was apparent, said to be suffering from a gastric ulcer. I am sure it will be conceded that many young women were said to have an ulcer of the stomach solely because they had hæmatemesis. I have always taught that there is no satisfactory evidence that all the numerous young women who suffer from hæmatemesis owe this to ulceration. Numbers of collections of cases show that hæmatemesis is much commoner in young women than young men; for example, Dr. E. W. Goodall,[11] collecting some cases from Guy's Hospital, found that out of 36 cases under 30 years old 27 were females and nine males. Further, if all the cases of hæmatemesis in young women are set down as being instances of ulcer, then it will undoubtedly appear that while there are many more cases in women between the ages of 20 and 40 than in any other two decades, in men gastric ulcer is commoner later in life. Again, some authors publish figures which show that gastric ulcer is more commonly fatal in men than women, and even if other collections of cases show it to be a little more often fatal in women than in men it is certainly true that any more numerous mortality in women is never so striking as it ought to be if the many cases of hæmatemesis occurring in women and diagnosed to be gastric ulcer on the strength of the hæmorrhage really are instances of this disease, especially as figures taken from post-mortem records, so that there is no doubt about the diagnosis, show that hæmorrhage from an ulcer is a rare cause of death in young women. This is illustrated by MacNevin and Herrick's[12] figures, for they found that of 25 cases that died from hæmorrhage from an undoubted ulcer 19 were males and five were females, and 24 were 30 years of age or over. Because of these facts I have for many years been accustomed to teach that one of two conclusions must follow: either the outlook of gastric ulcer in women is much more favourable than it is in men, or many cases occurring in women and classified as gastric ulcer at the bedside are really instances of some other undescribed malady. I have also maintained that the second is the more likely view, for it relieves us of the difficulty of explaining why the disease

[1] Latour: Histoire Philosophique et Médicale des Hémorragies, vol. i., p. 287, Paris, 1828.
[2] Dalché: Essai sur l'Embarras Gastrique et le Vomissement de Sang. Paris, 1803.
[3] Burrows: Tweedie's Library of Medicine, vol. v., p. 38, 1840.
[4] Lordat: Traité des Hémorragies, Paris, 1808.
[5] Ashwell: Chlorosis and its Complications. Guy's Hospital Reports, vol. i., 1836.
[6] Leube: Ziemssen's Cyclopædia of the Practice of Medicine, vol. vii., English Translation, pp. 271 and 274.
[7] Habershon: Guy's Hospital Reports. 1870.
[8] Warren: Boston Medical and Surgical Journal, May 5th, 1881, p. 417.
[9] Hind: Medical Record, July 8th, 1882, p. 37.
[10] Oser: Eulenberg's Real-Encyclopädie der gesammten Heilkunde, 3. Auflage, Band xiv., S. 287, 1897.
[11] Quoted by Donald Hood, Transactions of the Medical Society of London, 1892.
[12] M. G. MacNevin and F. C. Herrick: The Journal of the American Medical Association, July 7th, 1906, vol. xlvii., p. 14.

should be proportionately at least more fatal in men and also why it should occur later in life with them, and therefore up to 1901 I was in the habit of teaching that there is probably a disease occurring principally in young women, of which the most prominent symptom is hæmatemesis due, not to ulcer, cirrhosis, malignant disease, heart disease, or any commonly recognised cause of hæmatemesis, but probably due to oozing of blood from the mucous membrane of the stomach, and that many of the cases which our predecessors described as examples of vicarious menstruation were examples of this disorder, but as I had no ocular demonstration of such oozing to offer I could not prove my point. However, in a paper entitled[13] "Are not some Patients said to be Afflicted with Gastric Ulcer really Suffering from a Different Disease?" I was able to describe one case of fatal hæmatemesis in a woman in whom the most careful search failed to reveal any source for the blood, and another in which the stomach was opened during life for repeated hæmatemesis and again a very thorough search failed to show any ulcer or other source of hæmorrhage, and I was able to refer to three published cases in which a careful search on the part of the surgeon who had opened the stomach for hæmatemesis had failed to find an ulcer or any well known cause for the bleeding.

Although many text-books on medicine do not describe this disease in which blood oozes from the gastric mucous membrane, yet it is now recognised by several authors. Bertrand Dawson[14] in particular has called attention to it. Herringham[15] has also published cases. Mayo Robson[16] describes "the sudden severe attacks of hæmatemesis or melæna occurring usually in young anæmic women ..... after death the stomach lesions seem altogether inadequate to explain the serious nature of the bleeding"; and further on in the same article he says, "Capillary oozing or bleeding from arterioles is much more common and accounts for many more cases of gastric hæmorrhage than has hitherto been supposed"; and cases in point are described in "Diseases of the Stomach and their Surgical Treatment,"[17] and Lejars[18] refers to cases in which ulcer was expected and not found. I thought it might be of interest to you if I collected some cases of this disease in order that we may try to find out some of the characters of it. In the appendix to this address I have got together 29 cases; two of these have been under my care and have not been published. Five other instances came from Guy's Hospital and I am indebted for them to the kindness of my colleagues. The others I have collected from medical literature. Some of these formed the basis of a short paper read before the Bedfordshire and Hertfordshire division of the South Midland Branch of the British Medical Association last June. My excuse for the small number of cases is that I have chosen only those in which an examination after death, or an inspection of the interior of the stomach during life, showed that no ulcer or other well-known cause for the hæmorrhage could be found. The rigidity of choice is necessary, because otherwise it would have been open to critics to suggest that in some of my cases probably an ulcer was the cause of the hæmorrhage, for the absence of an ulcer can never be proved unless the interior of the stomach is seen. The paucity of cases is also due to the fact that the disease is rarely fatal. Sir Cooper Perry kindly suggested to me that the disease might be called gastrostaxis. This is a satisfactory name, as oozing of blood from the stomach is always present at some time or another and may be the only symptom, and we already have the word epistaxis, some cases of which are probably due to an oozing of blood from the nasal mucous membrane.

Twenty-seven of my patients were women and two were men; thus we learn that the disease is far more frequent among women than among men, and we also learn an important fact—namely, that it may occur in men. One patient was 18 years old, one was 19 years old, 12 were between 21 and 28 years, 11 were between 30 and 39 years, one was 41 years, one was 44 years, one was 54 years, and in one the age was not stated. It is interesting to notice that the youngest patient was a male. It must be remembered that these figures give the age at death or operation, still it is very striking that 23 of the patients were between the ages of 21 and 39 and the two patients over 40 had each had the malady for some time. So we may conclude that this disease is not one of childhood or the later half of life, and further I shall be able to show presently that it is very rarely fatal, and therefore as we seldom meet with it over the age of 40 years, alarming as the symptoms are, it usually gets well of its own accord. This is the more noteworthy as it is often, owing to misapprehension of its nature, wrongly treated. It is, I think, certainly much more common in hospital than in private practice but I am quite unable to suggest a reason for this.

Symptoms.—The chief symptoms are hæmatemesis, vomiting apart from the hæmatemesis, and pain in the region of the stomach. The hæmatemesis may be very profuse, as is shown by the fact that it has often been thought that the only chance of saving the patient's life lay in opening the stomach to try to arrest the hæmorrhage. It is difficult to state the relative frequency of these very profuse hæmorrhages and those which are less in quantity, but the attacks of bleeding vary much in severity, being sometimes comparatively trifling but certainly often very severe; when this is the case there are the common accompanying symptoms, such as pallor, faintness, and a rapid small pulse. Usually the blood does not remain in the stomach long for it is vomited up bright red. The hæmatemesis occurs in attacks extending over many years and often with intervals of months or even a year or two between the attacks. For example, Case 10, a woman, aged 25 years, had her first attack in August, 1900, her second in February, 1901, her third in January, 1902, and her fourth in July, 1904, and in many of my cases it is stated that the attacks occurred on and off for many years. Thus Case 7 had been liable to hæmatemesis for seven years, Case 12 for 11 years, Case 18 for many years, and Cases 21 and 28 for four years. But, as just mentioned, it is quite certain that the attacks ultimately cease, for, as we have already learnt, we rarely meet with the disease after the age of 40 years. Each attack may be taken to consist of a series of occasions separated by only a few hours or a few days, and on each of which the patient brings up blood. This is well shown in Case 20 and also in Case 25, in which there were five severe attacks of hæmatemesis in 12 hours. There appears to be no rule as to which is the most serious attack. The first may be so alarming that those in charge of the patient have thought it proper to open the stomach. That was so, for example, in Cases 3, 15, 19, 20, 23, 24, and 25, and the first attack of hæmatemesis may be the earliest indication of the disease. The patient may have previously always enjoyed good health until she vomits a quantity of blood, but other patients complain that they have for some time suffered from attacks of indigestion. Blood may be passed from the rectum; then it is usually tarry but in a case (No. 19) in which the blood oozed from the duodenum as well as from the stomach that passed from the rectum was bright red. Vomiting without hæmatemesis may take place and gastric pain and tenderness are very common. They are often associated with the hæmatemesis but often exist apart from it. Like it they are not constant; the patient usually says she has had attacks of indigestion with intervals of good health for many years past, and that the pain, which may be very severe, is made worse by food, although it is certainly in some independent of food. Often these patients have been regarded as suffering from a gastric ulcer and have been put to bed and fed by the rectum, and even when fed by mouth their food has been very restricted, therefore it is not surprising that frequently they are thin, but speaking broadly I think it will be found that they are not nearly so thin as the sufferers from genuine gastric ulcer. They are often pale and have amenorrhœa but this is only to be expected considering the quantity of blood they lose.

Etiology.—The cause of this condition is very obscure. It certainly is not vicarious menstruation for in my series there are two cases occurring in men. Unfortunately, I do not know whether the woman, who was 54 yearsold, had ceased menstruating, but it is at least probable that she had. I have repeatedly tried to observe if there was any monthly periodicity of the bleeding in patients whom I strongly suspected to have this disease and have never found it. Welch,[19] commenting on Banti's case, suggests that there had been an ulcer which had healed so completely as to leave no recognisable scar, but that explanation will not hold, for the

[13] Hale White: THE LANCET, June 29th, 1901, p. 1819.
[14] Bertrand Dawson: Brit. Med. Jour., Oct. 21st, 1905.
[15] Herringham: Clinical Journal, March 14th, 1906.
[16] Mayo Robson: THE LANCET, Dec. 13th, 1902, p. 1626.
[17] Mayo Robson and Moynihan: second edition, 1904.
[18] Lejars: Chirurgie d'Urgence, fifth edition, Paris, 1906.
[19] Pepper's System of Practical Medicine, vol. ii.

stomach was examined post mortem four days after severe bleeding and the ulcer can hardly have healed in that time, and further in many cases the interior of the stomach has been examined either during life or after death immediately following severe bleeding. Nor can these patients be early cases of gastric ulcer, for many of those mentioned in the appendix had had pain and vomiting for years, and yet when the stomach was inspected no trace of an ulcer could be found. I need hardly say that in no case here recorded was any venous engorgement, such as results from heart disease or cirrhosis of the liver, present to explain the hæmorrhage.

We have seen that it has been suggested that chlorosis is in some way responsible for this disease, but saying this does not tell us why the stomach should ooze blood, nor are patients with chlorosis particularly liable to bleed from other parts of their body; indeed, the reverse is the case, for they usually have amenorrhœa, but that this oozing of blood is not part of ordinary chlorosis is proved by the fact that two of my patients were males and chlorosis is confined to females; further, one of my patients was 54 years old and chlorosis is rarely seen as late as this, and then we have the fact that some of the patients are in perfect health at the time of the first hæmatemesis; this was so in Case 24 in the appendix, and in others—e.g., Cases 28 and 29—the patient has looked healthy in spite of many hæmorrhages. Lastly, Mr. H. C. Cameron examined the blood of one woman who almost certainly had gastrostaxis and found her blood healthy, and the blood of Case 28, examined by Mr. Laidlaw, was certainly not chlorotic for it showed 5,400,000 red cells and the normal amount of hæmoglobin. When in 1901 I suggested an association with chlorosis I had not found any case of gastric oozing in men nor at so late an age as 54 years. I wish I could give a fuller account of the blood in this disease, but I cannot for the following reasons. It is above everything necessary, when we wish to convince others that an undescribed disease exists, only to record undoubted examples, and a case can only be regarded as an absolutely undoubted example of hæmorrhagic gastric oozing when the interior of the stomach has been inspected after death or during life. As a result of much searching I have only got 29 cases fulfilling this condition and only two of these were under my care and one of them I regarded as having an ulcer, the blood of the other I have just described, it was not chlorotic. I shall show presently that the disease is probably very common although rarely fatal and it is almost certain that I have had dozens of cases under my care in the hospital, but to draw a description of the disease from them as well as from the cases in which the stomach was inspected might have made the description of the disease less accurate, for those that did not die and were not operated upon may have owed their hæmorrhage to some other condition, but now that it is established that this disease exists it will be of advantage to examine the blood of patients in whom the disease is strongly suspected during life and to see whether it is ever of the chlorotic type and I hope to do this.

Invoking the aid of the nervous system does not help us much. Kreug [20] has called attention to the fact that bleeding into the stomach may occur in the course of general paralysis of the insane but the patients here described certainly have not got that. Hæmorrhage from the stomach has been described as hysterical, but, considering that the disease under discussion and hysteria are both most frequent at the same age and in the same sex, it is probable that when so-called hysterical hæmatemesis is not due to fraud it is due to this disease occurring in a hysterical subject, as in the case of a girl who for a long while was under my observation; she used to go into the condition of trance, had many hysterical symptoms and frequently vomited large quantities of blood. But even if we allow that there is such a condition as hysterical hæmatemesis it will not explain our cases of gastric oozing, for in none of the cases that I have collected is mention made of hysteria. The patients recorded in the appendix and under my own care were not hysterical, and among the number of patients whom I have seen, and whom I strongly suspect to be suffering from gastric oozing of blood, hysterical symptoms have rarely been striking.

Some surgeons, when describing cases of hæmatemesis in which on opening the stomach no ulcer has been seen, mention that minute erosions were visible, nor is this surprising, for if bleeding takes place into the cavity of the stomach the blood must tear through the epithelial lining and so form a minute erosion which may sometimes be visible to the naked eye, and Dr. F. J. Smith and others have described the beginning of a gastric ulcer as a minute erosion, but that cases of gastrostaxis represent the early stages of ordinary gastric ulcers is in the highest degree improbable, for the proportion of women to men who suffer from gastrostaxis is far greater than the proportion of women to men who suffer from gastric ulcer; when the stomach is examined in cases of gastrostaxis which have lasted years no ulcer is found; there are cases of gastrostaxis in which the most minute examination of the stomach has failed to show any lesion. Operators have often described the blood—when no ordinary ulcer has been present—as proceeding from many points at once, and while two or even three ulcers may exist in the same stomach we do not often see many in the same stomach in the post-mortem room; and lastly, if gastric ulcer were produced by the enlargement of minute erosions which owed their origin to hæmorrhage it would be an accepted fact that hæmatemesis was almost always the first sign of ulcer, but this undoubtedly is not so, indeed, some cases of gastric ulcer never have hæmatemesis. Then, again, a hæmorrhagic erosion only means that there has been a sufficiently large ecchymosis to tear through the epithelium, and, as I shall show directly, ecchymoses are so common that if they bore any relationship to gastric ulcer it ought to be associated with them in the post-mortem room, but it certainly is not. Willigks [21] reports show that hæmorrhagic erosions occur in 1·8 per cent. of all bodies examined post mortem. I found they occurred in 16 out of 2246 post-mortem examinations, or 0·7 per cent., so they are certainly uncommon; in six of the 16 cases they may well have been due to backward pressure from disease of the heart, for a serious valvular disease was present; in six there was serious organic disease in the abdomen, the condition in each being gangrene of bowel, gastrostomy had been performed for malignant disease of the œsophagus, carcinoma of the gall-bladder, intra-abdominal abscess, general peritonitis following disease of the appendix, and carcinoma of the pylorus; of the remaining four cases two died from lobar pneumonia, one from general tubercle, and one had general arterial atheroma. Thus the diseases associated with gastric erosions are certainly not associated with gastric ulcer and of these 16 patients the sex is stated in 15, and nine were males; the age is given in 14, and the ages were 69, 63, 60, 54, 50, 49, 47, 45, 44, 38, 38, 36, 30, and 16, giving a much higher age than the age at which we usually meet with gastric ulcer. Therefore neither the associated diseases nor the age of those in whom erosions are found in the stomach support the view that these are the precursors of ordinary gastric ulcer. And inasmuch as the gastric oozing of blood, which forms the subject of this address, occurs mostly in young women who are free from other disease, we see that the cases in which gastric erosions are found in the post-mortem room have no relation to these cases of gastric oozing.

It is not recognised by those who are not in the habit of making post-mortem examinations that gastric ecchymoses are very common; indeed, they are so often seen that it is necessary for us to try to discover whether they have any relationship to these cases of gastric oozing. Among the 2246 post-mortem examinations I have just alluded to they were found in 172 cases, of which 107 were males and 65 were females. The age of death was stated in 169 cases. Fifteen of the patients were under 10 years of age, 19 were between 10 and 20 years, 29 were between 20 and 30 years, 31 were between 30 and 40 years, 34 were between 40 and 50 years, 24 were between 50 and 60 years, nine were between 60 and 70 years, and eight were over 70 years; in all, 77, or nearly half, were 40 years of age or over, and about one-tenth were under ten years of age. Now, as cases of gastric oozing are far more frequent in women than in men, and as they are nearly always in those who are under 40, and very rarely, if ever, in those under ten years of age, it can hardly be that the gastric ecchymoses so frequently found in the post-mortem room have any relationship to the cases of gastric oozing that are here described, and we may in passing call attention to the fact that the same arguments show that these ecchymoses have no causative relation to ordinary gastric ulcer. Out of the 172 cases the cause of death in at least 63 was an acute infective process, for seven had infective endocarditis, 18 had lobar

[20] Kreug: Archiv für Psychiatrie, 1880, p. 567.

[21] Quoted by Leube (Ziemssen's Cyclopædia of the Practice of Medicine, vol. vii., English translation, p. 271).

pneumonia, 17 had acute peritonitis, 24 had pyæmia or septicæmia, and two had acute nephritis. Although some of the 66 might be placed under more than one of these headings, for example, some of the cases of pneumonia had infective endocarditis, yet no case has been counted more than once, so we learn that ecchymoses of the stomach are frequently found in those dying from acute infective diseases. In 16 cases chronic heart disease was present, which is not surprising as increased backward pressure may well have some influence in producing gastric hæmorrhagic ecchymoses, and this will explain why they are often seen in those who have cirrhosis of the liver. Prolonged impairment of nutrition also probably predisposes to these ecchymoses, for 25 of the 172 patients died either from tuberculous disease or cancer. Several of the patients had either interstitial nephritis or a considerable degree of atheroma, so we learn that by far the most frequent association of gastric ecchymosis is some acute infective disease and that disease of the heart, phthisis, malignant disease, cirrhosis of the liver, atheroma, and interstitial nephritis are common associations. But we have already seen that cases of gastric oozing usually occur in young women who have no other disease, so a study of the associated conditions shows that these ecchymoses have nothing to do with the production of gastric oozing and thus the conclusion we reached from studying the ages and sex of our cases of gastric ecchymoses is confirmed, and here again there is no evidence that ecchymoses have anything to do with gastric ulcers, which certainly are not often found in those who have an acute infective disease, heart disease, phthisis, or cancer. It is interesting to notice that in 16 cases out of the 172 ecchymoses were found in the duodenum as well as in the stomach, and in six cases in other parts of the small intestine, and once in the large.

I am afraid we must conclude that we do not know the cause of gastric oozing, but this is hardly surprising for we do not know why the blood should leave the vessels in purpura hæmorrhagica in which its doing so is the chief feature of the disease. As there is no striking increase of blood pressure the change must be in the vessel walls, and further the change is local in the stomach for no bleeding takes place at distant parts of the body, but one of my cases (Case 19) shows that in gastric oozing blood may come from the duodenum as well as the stomach. Judging by the description given by those surgeons who have seen the oozing of blood during life it closely resembles the oozing from the uterus during menstruation, but then we must remember that we do not know the cause of this.

Frequency.—According to some post-mortem room statistics gastric ulcer is rather more common in males than in females, others make it commoner in females than males. Even if we take Moynihan's figures of patients believed to have a gastric ulcer and subjected to operation which show a large preponderance of females we find that out of 134 cases 89 (66·4 per cent.) were in females and 45 (33·6 per cent.) were in males, but of my 29 cases of gastric oozing, in all of which the interior of the stomach was examined after death or during life, we find only two, or under 7 per cent., were males and about 93 per cent. females, so we have very strong evidence that a large number of the women who come into the hospital suffering from hæmatemesis and in whom the diagnosis between gastric ulcer and gastric oozing is difficult or impossible, are really suffering from gastric oozing and therefore we learn that it is a common disease. This argument, coupled with the fact that I have here collected 29 cases in which there was profuse hæmatemesis without ulcer, shows that it is not correct to say "hæmatemesis if present is the most certain sign of ulcer and its occurrence alone is sufficient to warrant a positive diagnosis of this affection."[22] Saundby[23] says, "Where profuse hæmatemesis occurs ulcer of the stomach is almost certainly present"; and Cheyne and Burghard[24] write, "The occurrence of occasional attacks of hæmorrhage from the stomach which are sometimes severe and are accompanied by pain and vomiting in a young chlorotic woman are almost pathognomonic of a gastric ulcer," but in both these quotations I think almost is too strong a word and I should prefer to say that profuse hæmatemesis in a young woman only renders an ulcer likely, for the patient may be an example of gastric oozing; indeed, Cheyne and Burghard mention the oozing cases a few pages further on, and Mayo Robson speaks of sudden severe attacks of hæmatemesis or melæna occurring in young anæmic women, and yet after death the stomach lesions seem altogether inadequate to explain the serious nature of the bleeding.[25]

Prognosis.—The prognosis of these cases is good. A death from hæmatemesis without any lesion to explain it would be so striking that if it were common a specimen illustrating it would have been shown before the Pathological Society of London, but I cannot find any record of one. Looking through 7500 records of post-mortem examinations at Guy's Hospital I can only find three patients who died from hæmatemesis, which was due to oozing from the gastric mucous membrane, and if we add Case 20, which was fatal in Guy's Hospital but no post-mortem examination was allowed but the stomach was inspected thoroughly at the operation, we have the only fatal cases during the time during which the 7500 post-mortem examinations were performed. They are Cases 7, 18, 19, and 20 in the appendix. Nos. 19 and 20 were operated upon and we shall see presently that these patients bear operation badly, so possibly they would not have died had no operation been performed, but be that as it may, from the years 1891 to 1905 at Guy's Hospital, during which time 7500 post-mortem examinations were performed, we, at the outside, only had four cases in which gastric oozing of blood proved fatal. Three of these four were admitted into the medical wards, and during the same years as the 7500 post-mortem examinations were made—viz., 1891-1905—the total number of patients admitted into the medical wards was 32,000. Thus we see that the mortality from gastric oozing is very slight which accords with the fact to which attention has already been drawn that the older writers did not look upon vicarious menstruation as harmful. It will be remembered that, inasmuch as the disease is rarely seen after 40 years of age, we have already learnt that gradual recovery is the rule.

Diagnosis.—The diagnosis of gastric oozing from most other causes of hæmatemesis, such as that due to cirrhosis, heart disease, or cancer, is easy but it is often very difficult or impossible to separate these cases from gastric ulcer unless the gastric ulcer has led to hour-glass stomach, gastric dilatation, tetany, a mass of thickening that can be felt, or a subphrenic abscess, but points that will help are that these cases of gastric oozing of blood are almost confined to women, while a considerable proportion of gastric ulcers are present in men. If the patient has not been starved as a result of treatment I think that a sufferer from gastric ulcer is more likely to be wasted than one afflicted with gastric oozing, and although some of these give a history of chronic dyspepsia, pain after food, and tenderness over the stomach, yet the occurrence of considerable intervals during which there is no complaint of gastric symptoms is, perhaps, on the whole in favour of gastric oozing, and I suspect that if large numbers of cases could be compared the dyspeptic symptoms would be found to be less severe in the cases of oozing, but I am afraid that in the present state of our knowledge the diagnosis between the two must sometimes be a matter of considerable difficulty, which, however, is probably less on paper than at the bedside. It may be that future observation will show that hydrochloric acid is more abundant in gastric ulcer.

Dr. J. J. Pringle[26] has recorded the remarkable case of a man who was subject to urticaria, the tongue and mucous membrane of the mouth and fauces being involved in the more severe attacks, many of which were accompanied by profuse hæmatemesis. One of these attacks was so severe that the patient's wife said: "The blood poured out like water from a jug, filling two hand-basins and saturating the bed." Dr. Pringle quotes cases recorded by Graves and Murchison which, like his, suggest strongly that in some patients with urticaria the urticarial process may affect the gastric mucous membrane and so lead to hæmatemesis. It is interesting to notice that there was a necropsy upon one of Graves's cases and no ulceration of the gastric mucous membrane was found. These excessively rare cases can easily be distinguished from those which form the subject of this paper by the fact that there is no urticaria and that usually there are symptoms of dyspepsia which were absent in Dr. Pringle's case.

Treatment.—The last point we have to discuss is treatment, and perhaps we had better first get rid of the question

[22] Einhorn: Twentieth Century Practice of Medicine, vol. viii., p. 223.
[23] Saundby: THE LANCET, Feb. 14th, 1891, p. 352.
[24] Cheyne and Burghard: Manual of Surgical Treatment, part vi., section 1, p. 233.
[25] Mayo Robson: THE LANCET, Dec. 13th, 1902, p. 1626.
[26] Pringle: Transactions of the Clinical Society, vol. xviii., p. 143.

of operation. We have seen that many of the women admitted into hospitals with hæmatemesis suffer from gastric oozing and yet the deaths from this cause are very few, only four cases from Guy's Hospital from 1891 to 1905, during which period 7500 post-mortem examinations were performed and 32,000 medical patients were admitted, and further we have also seen that the sufferers from this disease tend to grow out of it, for it is so much commoner in women under 40 years of age than over. These facts alone are enough to make us hesitate about operating, especially as the blood is often oozing from many points, so that it is difficult to see how surgical interference can stop it, and, further, it has recurred after operation; thus Case 149 of Moynihan's series (Case 26 in the appendix): "27 Nov., 1904, female, aged 27. Stomach and duodenum explored for ulcer. None found. Posterior gastro-enterostomy entirely satisfactory. The patient was sent by Dr. Stanley Green, Lincoln. Dr. Green writes in June, 1905: 'This patient is not any better, she still continues to have hæmatemesis and melæna.'" Again, Case 10 in my appendix is one recorded by Dr. Bertrand Dawson and he says: "Many fresh hæmorrhages after operation. Patient's condition not improved. A second operation was performed for another attack of hæmatemesis. Nevertheless, the attacks have continued to the present date." Also Cases 16, 17, and 27 in the appendix are three others in which hæmatemesis recurred after operation, and probably it returned in others, but it is impossible to say, for the after-history is not given in many of them. But there is another very important reason why these patients should not be subjected to operation—namely, that many of them die after it. Out of the 29 cases which form the appendix to this paper operation was undertaken in 24; either the bleeding points were ligatured or a gastro-jejunostomy was performed and in eight, or 27·5 per cent., death followed. As the disease is one with naturally a very low mortality, I think there is no doubt that operation should not be performed for the hæmatemesis; it is more likely that the patient will recover without than with operation. In this I am supported by surgical authority. Mayo Robson[27] says: "The operative treatment of parenchymatous or capillary hæmorrhage by any surgical method would seem to be of doubtful value," and he quotes five cases which died. Watson Cheyne and Burghard[28] strongly deprecate operating for gastric hæmorrhage in these cases. W. G. Thompson[29] says operative measures can rarely be relied upon for the cure of active hæmatemesis. Thus we learn that operation should not be performed during the actual hæmorrhage, and it certainly should not be performed when there is no bleeding if the diagnosis of oozing is certain, for it is difficult to imagine how any operation will prevent the recurrence of oozing of blood.

While the hæmorrhage is actually in progress and for a short time after it has ceased the patient should be kept quite quiet in bed, should not be allowed food, but may have some ice to suck. Probably transfusion of normal saline solution is rarely desirable, for it will raise the blood pressure and so tend to increase the hæmorrhage, but it is conceivable that in an extreme case it might be useful. Ergot should not be given in any form, as it will raise the blood pressure by a general constriction of the arteries. It is doubtful if adrenalin is of value, for it is so diluted by the gastric contents, but still from five to ten minims of a 1 in 1000 solution may be given by the mouth in the hope that its local effect on the gastric vessels may lead to their constriction. It is not absorbed from the gastro-intestinal mucous membrane, so that the harm it would do, if injected subcutaneously, by raising the blood pressure will not be experienced. I have often given perchloride of iron by the mouth for its local hæmostatic effect on the stomach and sometimes with apparent benefit. Half a drachm of the liquor ferri perchloridi with an equal amount of glycerine forms a concentrated solution which is swallowed easily. The only objection to it is that it appears sometimes to make the patient sick, but if it does not this dose may be repeated frequently. The liquor is better than the tincture because of the alcohol which this contains. Ten grains of calcium chloride may be given three times a day in the hope that it, by increasing the coagulability of the blood, may restrain the bleeding. Under treatment such as this it will nearly always stop. If the physician is of opinion that the case is one of gastric oozing the patient may, after two, three, or four days from the cessation of the hæmorrhage, be fed upon milk in fair quantities—say one and a half pints or two pints in 24 hours, small quantities being given every hour and the liability to the formation of curds being prevented by peptonising the milk, or better still by adding two grains of sodium citrate to each ounce of milk. Then if no further bleeding occurs any plain simple food, such as bread and milk, milk pudding, bread and butter, fish or minced meat may be ordered, for these patients do well the sooner they take ordinary food. At the same time some preparation of iron such as the tartrate or dialysed iron that does not upset digestion may be prescribed. Probably an enema will be needed. I have treated many patients in this way lately and the rapid improvement has been very striking. Instead of lingering in the hospital for weeks as these patients used to when they were treated for a long while by rectal feeding or small quantities of milk by the mouth on the assumption that they had a gastric ulcer, many are, on this altered treatment, quite fit to leave the hospital and return to their work in three weeks at the most. Under the older plan they were treated in the way just mentioned for at least three weeks and then it took them quite another three to recover from the effects of the starvation treatment. Dr. H. S. French has kindly looked through the medical reports at Guy's Hospital and he tells me that of late years these cases have been put upon full diet earlier than they were and that the further back we go in the records the longer the period after the hæmatemesis before full diet was allowed. He took at random eight cases not under my care in every one of which solid food had been given a few days after the hæmatemesis had stopped and they all recovered rapidly. Seven of these were young women; the eighth was a woman, aged 50 years. The only objection that can be urged against this treatment is that, as it is sometimes difficult to distinguish these cases from those of genuine gastric ulcer, we may occasionally do harm by feeding a patient suffering from a genuine gastric ulcer too soon. But I think with care these cases of oozing may in many instances be separated from those of genuine gastric ulcer. Then there is a large group of gastric ulcers—namely, those in which adhesions outside the stomach have quite prevented the risk of perforation; in these no harm can follow giving food three or four days after the bleeding has stopped. In the next place all the patients under discussion came into the hospital for profuse hæmatemesis. Now it is a remarkable thing that it is quite exceptional to find that a patient who is admitted for a perforated gastric ulcer has recently had severe hæmatemesis. This opinion is confirmed by an examination of Moynihan's cases, for of 21 cases of perforating gastric and duodenal ulcers not a single one had had recent hæmatemesis and such a striking circumstance as a profuse hæmatemesis preceding perforation by a few hours or a few days could hardly have escaped record; the nearest approach to it was the case of a man aged 40 years, who vomited blood once, a week before perforation, but this man would hardly have been confused with the cases of gastric oozing, for they are rare in men and at 40 years of age, and further his hæmatemesis a week before cannot have been very severe, for at the time of the perforation of his duodenal ulcer a barrel fell on him, so presumably he was at work. Therefore if a young woman has quite recently brought up a quantity of blood from the stomach, in the first place it is very likely she has not an ulcer at all, and, in the next place, it is extremely improbable that if she has it is on the verge of perforation. I have never seen or heard of perforation following upon the practice of putting these patients upon solid food early. It is said that the gastric juice is secreted during rectal feeding and that this hinders the healing of an ulcer, but even if there is no ulcer there is a strong reason against the old-fashioned plan of keeping these young women with hæmatemesis in bed for two or three weeks on rectal feeding—namely, that the most judiciously composed enemata are starvation diet, the patient only absorbing a third or a quarter of the number of calories of food she requires, even when resting in bed, and we cannot expect an ulcer to heal properly in a patient who is starving; indeed, I have known an ulcer perforate in a patient who was lying quietly in bed undergoing the routine treatment, so that, even if a genuine ulcer is present, it is probably best for the patient to have plenty of food by the mouth much earlier than is often allowed, for then the general health is maintained at as high a level as possible, and she stands the best chance that her ulcer will heal. During the short time rectal feeding is used dextrose should

[27] Mayo Robson: THE LANCET, March 9th, 1901, p. 688.
[28] Op. cit. [29] Op. cit.

be the main constituent of the enema, as it is best absorbed by the rectum. That advised by Boyd and Robertson[39] is very good—namely, the yelk of two eggs, 30 grammes of pure dextrose, 0·5 gramme of common salt, with pancreatised milk to make 300 cubic centimetres. But if four of these are given daily only 1200 calories are administered and of these probably only 500 are absorbed. If for any reason food cannot for a long while be given by the mouth sterilised olive oil may be injected under the skin night and morning. I have successfully given half an ounce night and morning for a month to a boy 10 years old—he had not a gastric ulcer; this is about 250 calories a day and perhaps an adult could have more. But we see that with rectal and subcutaneous feeding combined we do not attain half the calories required.

APPENDIX OF CASES.

CASE 1. Banti (*Lo Sperimentale*, February, 1880, p. 168).—A female servant, aged 21 years, had every symptom of gastric ulcer, including repeated hæmatemesis and the characteristic pain. She was nourished by enemata and died from an ulcerative proctitis four days after the last gastric hæmorrhage. Only a slight catarrhal inflammation of the stomach was found without a trace of ulcer, cicatrix or ecchymosis.

CASE 2. Stephen Mackenzie (Proceedings of the Medical Society of London, vol. ix., p. 80).—A female, aged 39 years. Three times whilst at work as a nurse she was laid up with symptoms attributed to gastric ulcer; she had gastralgia and hæmatemesis was a marked symptom; she suffered from amenorrhœa. At the post-mortem examination no sign of disease or ulceration could be detected.

CASE 3. W. C. Hood (Transactions of the Medical Society of London, 1892).—A female, aged 21 years. Sudden onset of very severe hæmatemesis; this recurred and a few days later the patient had mumps and died from hyperpyrexia; no source of bleeding could be discovered in the œsophagus, stomach, or bowel.

CASE 4. Hirsch (*Berliner Klinische Wochenschrift*, 1896, p. 847).—A female, aged 25 years. Suffered from pain, vomiting, and hæmatemesis. The stomach was opened and as no ulcer could be found it was sewn up. The patient recovered completely.

CASE 5. Armstrong (*British Medical Journal*, vol. ii., 1899, p. 1088).—A female, aged 35 years. She had suffered much from hæmatemesis; an operation was performed. "No deep excavated ulcer was found but blood was seen oozing from three different places which looked like linear fissures in two cases and in the third like a stellate fissure; around the fissures over an area of one centimetre there was an apparent loss of superficial epithelium."

CASE 6. Mansell Moullin (THE LANCET, Oct. 30th, 1900, p. 1126).—A female, aged 34 years. Stomach opened on account of severe hæmatemesis. "One very small bleeding point was found on the posterior wall of the stomach near the pylorus. It could scarcely be called an ulcer."

CASE 7. Hale White (THE LANCET, June 29th, 1901, p. 1819).—A female, aged 37 years, under the care of Dr. G. Newton Pitt. For seven years she had been liable to attacks of gastric pain, vomiting, and hæmatemesis. She was admitted into Guy's Hospital blanched and collapsed and died from hæmatemesis. The most careful search at the post-mortem examination failed to find any source for the bleeding.

CASE 8. Hale White (THE LANCET, June 29th, 1901, p. 1819).—The patient was a female; she had attended the out-patients' department under the care of Dr. Lauriston E. Shaw for a long while suffering from gastric pain, vomiting, and hæmatemesis. She was admitted under the care of Dr. Frederick Taylor; the stomach was opened but no source for the hæmorrhage or ulcer could be found; she made an excellent recovery.

CASE 9. Bertrand Dawson (Transactions of the Medical Society, vol. xxvi., p. 60, quoted from *Münchener Medicinische Wochenschrift*, November, 1902).—A man, aged 41 years, had pain in the epigastrium not related to food, vomiting, copious hæmatemesis, and tarry stools. He recovered and remained well for two years, when the trouble reappeared. On this occasion the hæmatemesis was more persistent, so gastrotomy was performed but nothing abnormal was found. The patient died a few days after the operation. A careful necropsy showed no sufficient cause for the symptoms, there being only four pin-point hæmorrhages near the pylorus.

CASE 10. Bertrand Dawson (*British Medical Journal*, Oct. 21st, 1905, p. 1032).—A female, aged 25 years. Illness began when 23 years old. Symptoms: pain, vomiting, hæmatemesis, anæmia, no wasting, tender epigastric spot. First attack August, 1900, in bed two months; second attack February, 1901, in bed six weeks; third attack January, 1902, on nutrient enemata; fourth attack July, 1904, operation by Mr. C. W. Mansell Moullin; all that was found was a small oozing erosion on posterior wall of the stomach; its base was ligatured. There were many fresh hæmorrhages after operation. The patient's condition was not improved. A second operation was performed for another attack of hæmatemesis. Nevertheless, the attacks have continued to the present date (Oct. 21st, 1905).

CASE 11. Bertrand Dawson (*British Medical Journal*, Oct. 21st, 1905, p. 1034).—A female, aged 30 years. She had had pain and vomiting after food on and off for 12 years. Three years ago she had profuse hæmatemesis; an operation was performed but all that was seen was a small abrasion from which blood was oozing. Up to the present there has been no return of hæmatemesis but the pain and vomiting have continued.

CASE 12. Bertrand Dawson (*British Medical Journal*, Oct. 21st, 1905, p. 1032).—A female, aged 28 years. The symptoms were pain, vomiting, skin tenderness in the epigastrium and behind, deep tenderness, and hæmatemesis. The patient had had recurrent symptoms during the past 11 years. At an operation performed by Mr. F. Eve nothing was found but a congested patch of mucous membrane.

CASE 13. W. G. Thompson (*American Journal of the Medical Sciences*, September, 1905).—A woman, aged 38 years, gave a classical history of gastric pain, epigastric tenderness, distress after eating, repeated attacks of hæmatemesis, with increasing weakness and emaciation, symptoms which lasted through many months. During 14 days' stay in the ward the patient had serious attacks of hæmatemesis and as there was no improvement under medical treatment the stomach was opened and the interior thoroughly explored with an electric light; the mucosa appeared slightly granular and congested but there were no hæmorrhage, no cicatrix, and no sign of any ulcer. The incision was therefore closed and the patient died three days later from exhaustion following repeated vomiting.

CASE 14. W. G. Thompson (*American Journal of the Medical Sciences*, September, 1905).—The patient was an Irish woman, aged 28 years. She gave an acute history including much gastric pain, hæmatemesis and melæna. She had had serious gastric hæmorrhage the day before the operation. The stomach appeared to be normal in size; there were no cicatrix, no visible ulcer, and no hæmorrhage. She rallied from the anæsthetic but died within 24 hours with a temperature of 106°F. At the post-mortem examination the cause of death could not be determined.

CASE 15. Herringham (*Clinical Journal*, March 14th, 1906).—A female, aged 31 years. She had had indigestion for 14 days before admission, hæmatemesis the day before, and severely on the day of admission. The stomach was opened and minutely inspected; it was deeply red all over with many bleeding points; several were ligatured. She died next day. All that was found was a slight erosion, in the middle of which was a small vein which had been opened.

CASE 16. Herringham (*Clinical Journal*, March 14th, 1906).—A female, aged 28 years. In the hospital eight years previously for gastric pain and vomiting; she was then thought to have a gastric ulcer. She improved and remained well two years; then she had hæmatemesis. Bleeding points were found and ligatured. Eight weeks after the operation she had a very severe attack of hæmatemesis and another after that.

CASE 17. Herringham (*Clinical Journal*, March 14th, 1906).—A female, aged 27 years. There was an eight years' history of pain after food; occasional hæmatemesis. On the day of admission to the hospital she brought up half a pint of blood, next day some more, and four days later some more. She stayed in the hospital a month and had further attacks of hæmatemesis. The stomach was opened and most thoroughly examined but nothing was found to be the matter with it.

CASE 18.—A woman, aged 54 years, was admitted into the Miriam Ward of Guy's Hospital under the care of Dr. Hale White in October, 1905. For some days previous to admission she had had several severe attacks of hæmatemesis and for many years she had suffered much from abdominal pain, vomiting, and dyspepsia. She had hæmatemesis shortly after admission and under medical treatment improved and for ten days had no further hæmorrhage but then had a severe and fatal hæmorrhage. A very thorough search at the post-mortem examination failed to reveal any ulcer, erosion, or bleeding point anywhere in the stomach or intestine the mucous membranes of which appeared to be quite healthy.

CASE 19. Symonds (Transactions of the Medical Society, vol. xxvi., p. 90).—A female, aged 44 years, was admitted into the Lydia Ward of Guy's Hospital under the care of Mr. Charters J. Symonds. She had had indigestion for 25 years. On Nov. 13th, 1902, whilst walking in the street she suddenly felt faint and immediately vomited a quantity of red blood and soon after passed red blood per rectum. Soon after she again vomited blood and passed tar-like motions. There was no tenderness but some epigastric pain. She did not complain of feeling ill. As the hæmatemesis continued Mr. Symonds opened the stomach on Nov. 24th; nothing abnormal was found; a posterior gastro-jejunostomy was done. On Nov. 25th blood was vomited again; on the 28th she was worse, vomiting a good deal of blood. The stomach and duodenum were opened by incision through the pylorus. Three very small bleeding points at the commencement of the duodenum were cauterised and the arteries of the greater curvature of the stomach ligatured. She died on Nov. 30th. The stomach and duodenum appeared absolutely normal. The small intestine contained much blood.

CASE 20.—A male, aged 18 years, was admitted into Guy's Hospital under the care of Dr. J. Fawcett on Jan. 31st, 1905, for hæmatemesis. There was nothing of importance in his previous history. On Jan. 30th, 1905, he vomited blood, it is said two and a half pints. On admission he was found to be strong, healthy-looking, and not particularly blanched. He had melæna. He was put to bed and ordered milk diet. On Feb. 4th he vomited one and a half pints of blood; he was much blanched; on Feb. 9th he brought up more than a pint of blood. There was much collapse and the pulse was over 115. After a consultation with Sir Alfred Fripp the abdomen was opened on Feb. 11th. Nothing wrong could be made out with the duodenum. The stomach was opened; no ulcer was to be seen anywhere; the whole mucous membrane appeared quite normal, except that over a small patch on the posterior wall there was oozing of blood appearing to come from a few minute points in the area. The slightest touch with the finger produced further hæmorrhage anywhere within this area, which apart from oozing appeared to be quite normal. This area was taken up in three purse-string sutures; this controlled the bleeding. An anterior gastro-jejunostomy was performed. On Feb. 13th the patient vomited a further eight ounces of blood and died the same afternoon. A post-mortem examination was not allowed.

CASE 21. (St. Thomas's Hospital Reports, vol. xxxiii., p. 79.)—A female, aged 22 years. She had suffered from pain after food and hæmatemesis for the past four years. Shortly after admission, while on rectal feeding, she developed symptoms of perforation and was much collapsed. The abdomen was explored but nothing was found to explain the condition. After operation the patient remained collapsed for 24 hours, subsequently she rallied, then an anterior gastro-jejunostomy was performed. She ultimately died a few days later from pneumonia. At the necropsy a careful examination of the stomach failed to reveal any signs of disease even after 24 hours' washing. There was pneumonia.

CASE 22. (St. Thomas's Hospital Reports, vol. xxxiii., p. 79.)—A woman, aged 38 years, had been treated as an in-patient in St. Thomas's Hospital for gastric ulcer on three previous occasions during the past three years, and she had had occasional hæmatemesis during this time; the vomit was streaked with blood the last time she was sick. When she was admitted she was found to be well nourished and there were no physical signs of disease. The stomach was explored and an anterior gastro-jejunostomy was performed. She did not rally and died later from symptoms of the so-called "vicious circle." At the necropsy a

[39] Boyd and Robertson: Scottish Medical Journal, 1906.

careful examination of the washed stomach and duodenum revealed no sign of ulceration. The pylorus was much thickened but this after microscopical examination was thought to be due to muscular hypertrophy.

CASE 23. (Mayo Robson and Moynihan, Diseases of the Stomach, second edition, p. 277.)—A female, aged 33 years. There was violent hæmatemesis a week before, the day before, and on the day seen. She had had slight indigestion. The stomach was opened; seven bleeding points were seen; posterior gastro-jejunostomy was performed. She recovered completely and a year later had had no recurrence.

CASE 24. (Mayo Robson and Moynihan, Diseases of the Stomach, second edition, p. 277.)—A female, aged 28 years. On April 8th she felt quite well; on the 9th she vomited a pint of blood. On the 14th she vomited much blood and passed some per rectum. On the 18th more blood was vomited. The stomach was opened; all that was seen abnormal was a considerable number of bleeding points, three of which were ligatured; posterior gastro-jejunostomy was performed. The patient recovered from the operation and did well afterwards.

CASE 25. Moynihan (Report on Surgical Treatment of the Non-malignant Diseases of the Stomach, presented to the Surgical Section of the British Medical Association at Leicester, July, 1905).—A female, aged 19 years. For several weeks she had pain after food. A large quantity of blood was vomited on the evening of Oct. 11th and four times in the next 12 hours. Operation failed to show any ulcer. Posterior gastro jejunostomy was performed. The patient recovered.

CASE 26. Moynihan (same report, Case 149).—A female, aged 47 years. The stomach and duodenum were explored for ulcer; none was found. Posterior gastro-jejunostomy was entirely satisfactory. The patient was sent by Dr. A. Stanley Green of Lincoln and he wrote in June, 1905: "This patient is not any better; she still continues to have hæmatemesis and melæna, but these disappear if she is kept in bed and put on a milk diet."

CASE 27. Mansell Moullin (*British Medical Journal*, May 13th, 1905, Case 8).—A female, aged 33 years. She had had pain and vomiting for four years; hæmatemesis occurred once. There was no ulcer or scar found at operation. Posterior gastro-jejunostomy was done. Symptoms returned five months later and she now has pain and sickness and has brought up blood once.

CASE 28.—A female, aged 24 years, was admitted into Guy's Hospital under the care of Dr Hale White in September, 1906. Dr. G. K. Levick reports that he has watched her for four years and during that time she has had repeated attacks of gastric pain, vomiting, and hæmatemesis. No treatment has done any good. On admission examination of the abdomen revealed nothing abnormal. The administration of bismuth and the application of the x rays showed the stomach to be of normal size. She looked quite healthy. The opinion was expressed that probably no ulcer was present, but as she had not bled for some time and was in good general condition it was, after consultation with Mr. Fagge, decided to explore; in case there was an ulcer a gastro-jejunostomy would relieve. The interior of the stomach was carefully searched; the mucous membrane appeared perfectly healthy. The blood contained 5,400,000 red cells per cubic millimetre. The hæmoglobin was normal.

CASE 29.—A female, aged 32 years, was admitted into Guy's Hospital on Jul 19th, 1902, under the care of Mr. Symonds. Had had pain in the stomach for several years and many attacks of hæmatemesis during the past nine months. She looked quite healthy. The interior of the stomach and duodenum were thoroughly explored and no ulcer could be found, nor was any abnormality seen. She recovered completely from the operation.

A Clinical Lecture
ON
ACUTE DUODENAL PERFORATION.

Delivered at St. Bartholomew's Hospital on Oct. 31st, 1906,

BY D'ARCY POWER, F.R.C.S. ENG.,
SURGEON TO, AND LECTURER ON SURGERY AT, ST. BARTHOLOMEW'S HOSPITAL.

GENTLEMEN,—I am going to tell you to-day about one of the dramatic conditions of surgery—a condition of which it may well be said that, like the soldier's lot,

"Horae
Momento cita mors venit, aut victoria laeta."

(In the twinkling of an eye comes swift death or the joy of winning.) Duodenal perforation strikes down a man who is to all appearances in perfect health and not only strikes him down but brings him at once to the verge of the grave, whence he is only rescued by the most prompt action of those who thoroughly appreciate the nature of his illness and the danger of delay. No one can tell how many lives have been lost by overlooking the signs and symptoms of duodenal perforation, but this I know, that many are still ignorant of the existence of such a condition, that deaths still occur without any attempt having been made to close the perforation and even in ignorance that there is a perforation. With this knowledge I need offer no excuse for drawing your attention to the following case. The notes I owe to my friend Dr. D. McCrae Aitken, assistant medical officer at the Bolingbroke Hospital, who conducted the case to a successful issue.

A compositor, aged 24 years, living at Stoke Newington, had suffered from occasional indigestion during the past three or four months and had vomited once or twice during the same period. He gave no history of severe abdominal pain, melæna, or hæmatemesis. His appetite had always been good and he had never suffered any pain associated with the taking of food. On Jan. 20th, 1906, he ate a large meal at 3 o'clock in the afternoon and started for a bicycle ride at half-past 3, going to Epsom and back, a distance of nearly 50 miles. At 8 P.M., whilst drinking a glass of beer at Balham, he had such an attack of pain in his abdomen that he was taken at once to the nearest medical man. He became collapsed and almost pulseless whilst he was in the medical man's consulting-room. Strychnine was administered hypodermically, he was put in a cab, and was taken to the Bolingbroke Hospital; on the way he vomited.

The patient was admitted to the hospital at 10.15 P.M. He was then very cold and collapsed. The temperature was 97 6° F. and the pulse was 96 and of fair volume and force. His facies was drawn as if with pain and he complained of severe abdominal pain, stating that he had felt some "windy pain" in the upper part of the abdomen in the morning and also on the previous day. Examination of the abdomen showed that there was practically no movement during respiration. It was very rigid all over and it was tender over the right iliac fossa. The patient looked better at half past ten. He was in less pain and the abdomen was less rigid on the right side. The liver dulness was present. At half past 11 I examined the patient and discovered tenderness in the epigastric region as well as in the right iliac region. The right rectus abdominis was more tense than the left and I made the diagnosis of "a small perforation near the pylorus, most probably on the duodenal side." The urine was examined. It was of specific gravity 1032, and contained no sediment or mucus and no albumin or sugar.

Ether was administered at 11.45 P.M. by Dr. R. C. Twigg and I made a three-inch incision to the right of the middle line of the abdomen and half way between the ensiform cartilage and the umbilicus. The pyloric end of the stomach was found immediately and brought into the wound. A small circular perforation with sharp edges and about one-sixteenth of an inch in diameter was found in the duodenum half an inch beyond the pylorus. There was no lymph exudate and there were no adhesions. No gas escaped from the peritoneal cavity when it was opened but there was a small quantity of dark-brown fluid exuding from the perforation. The hole was closed with two sets of Lembert's sutures of silk and a large drainage tube was left in the wound. A second opening was made into the peritoneal cavity over the region of the appendix and a tube was inserted there also. A fair quantity of turbid fluid escaped. The operation lasted 20 minutes. During the night the patient was given a rectal injection of 10 ounces of salt solution every four hours and this was continued during the next day. He had a little bronchitis on the day following the operation. He passed his urine but did not expel any flatus. The pulse remained steady at 100 and the temperature at 100·8° F. On Jan. 22nd he had sips of water from 10 A.M. which were gradually increased to a drachm every hour. He then had peptonised milk and water, two ounces every two hours. His pulse during the day was 88 and his temperature was 99·2°. The tube in the upper part of the abdomen was removed on Jan. 23rd and the tube in the right iliac region on the 24th. On the 25th the patient had jelly and custard; on the 26th bread and butter; on the 28th pounded fish; and on the 30th minced chicken. He sat up in a chair on Feb. 11th and was discharged on St. Valentine's day. The temperature during his convalescence varied from 99° to 100° and his pulse from 76 to 88. There were no complications. He has reported himself several times since he left the hospital as being in good health.

Compare the following case with that about which I have just told you and you will notice that there is a superficial resemblance in the symptoms but the signs and course were very different. Some of you may remember a carman, aged 22 years, who was admitted into my wards late one Sunday evening in summer. He said that he had been seized suddenly with such severe abdominal pain whilst he was driving that "it fair doubled him up and threw him backwards into his cart." At any rate the pain was so bad that he was brought straight to the hospital and he vomited on the way. On admission he was found to be complaining of great pain and some tenderness over the upper part of his abdomen. The abdominal walls moved freely during respiration but they were held rigid when they were touched, more

especially on the right side and at the upper part. There was no pain or rigidity in the region of the appendix nor was there anything to be felt by a rectal examination. The area of liver dulness was markedly diminished. The temperature was 99·6° F. and the pulse was 104. He had a leucocytosis of 28,000. The patient said that he had suffered severely from indigestion for the last two or three years, though he had never had such an acute attack of pain as the one from which he was now suffering. He further said that he had been "off his feed" for the last two or three days, though he confessed to having had a good breakfast of bacon and eggs and a hearty dinner of beefsteak; he had also been drinking though he was not drunk. As he did not seem collapsed, in spite of his physical signs, Mr. R. Foster Moore, who was then my house surgeon, contented himself with reporting his condition to me but made no preparations for an operation. We thought that the patient was suffering from an attack of acute dyspepsia and we agreed to await further developments. Two hours later the patient vomited twice and each time brought up a large mass of badly chewed meat. He then recovered quickly; his pain left him; his pulse fell to 88, he had a good night's sleep and I discharged him on the next day with a caution not to bolt his food and not to drink to excess.

These two cases present accurate pictures of two widely different conditions, either of which may come under your observation. The symptoms somewhat resemble each other but you must carefully distinguish between them. In the case of duodenal perforation the patient will die if you do not operate at once; in the case of acute indigestion you will do him more harm than good by operating. It is of the utmost importance therefore that an accurate diagnosis should be made as soon as possible and I will try to trace out for you the mental processes by which we arrived at a correct result in these two cases. In each case the first information came by telephone that a young man apparently in good health had been seized suddenly with such an agony of pain in his stomach as to make him helpless. The patient with duodenal perforation fell off his bicycle, the man with indigestion rolled backwards into his cart, and both vomited. There was no question therefore about the reality of the pain or the suddeness of its onset. Now there are not many abdominal conditions coming on suddenly in young men which induce such complete collapse as to make them seek instant admission to a hospital. In the case of duodenal perforation the patient was a compositor by trade and he might therefore have been seized with lead colic. His healthy appearance, the absence of any blue line round the gums, and the regularity with which his bowels were opened immediately negatived this cause. He was not suffering from simple colic due to indigestion, for he had ridden many miles and his stomach was empty as it was more than five hours since he had eaten anything. Renal colic was excluded by the fact that his urine was absolutely healthy and by his feeling the pain over the whole abdomen, though it was rather more localised to the right iliac region. He was clearly not suffering from biliary colic and although somewhat similar symptoms are produced by the impaction of a gall-stone in the intestine, such impaction, so far as I have seen it, only occurs in much older people.

The man with colic presented a different set of signs and symptoms. He was in pain but neither his face, his pulse, nor his temperature showed him to be in a state of collapse. He had recently had a hearty meal; his abdominal walls moved freely during respiration though the muscles became rigid as soon as they were touched. They were thus in a very different state from that of the poor fellow who had duodenal perforation, whose abdominal muscles were held rigid against all movements. I had very little difficulty in arriving at a conclusion as to the cause of his pain and felt certain that as soon as he vomited he would obtain relief.

But it was different with the case of duodenal perforation. The various forms of colic having been excluded the diagnosis was limited to some condition causing sudden and violent irritation of the peritoneum. The irritation must naturally have arisen within the abdominal cavity as the patient had not received any external injury. I had therefore to pass in review the various conditions occurring in a young man which may lead to sudden and spontaneous irritation of the peritoneum. They are perforation of some part of the alimentary canal, acute inflammation of the appendix, intussusception, and the strangulation of a piece of bowel either by a band of adhesion or by the slipping of a loop into one of the retro-peritoneal pouches, for we had, of course, excluded the ordinary forms of hernia. When I saw the patient I set to work to exclude these different conditions as rapidly as possible. The pain and rigidity in the upper part of the abdomen seemed to me to exclude the likelihood of a retro-peritoneal hernia or of inclusion by a band, for in these cases the abdomen often remains slack during the early periods; for the same reason and because there was nothing discoverable by rectal examination I dismissed intussusception. The pain and tenderness over the appendix region pointed to that part of the alimentary canal as the source of the symptoms. But it is a well-known fact that when the duodenum is perforated its contents trickle downwards into the right iliac fossa and many perforated duodenal ulcers have been mistaken for cases of appendicitis. I therefore examined the abdomen to ascertain whether there was not another and equally tender spot higher up in the abdomen. There was no difficulty in demonstrating the existence of such a point of maximum tenderness in the immediate neighbourhood of the pylorus. It was pretty certain, therefore, that the patient was suffering from a perforation either of the stomach or of the duodenum close to the pylorus. The previous good health of the patient, the absence of any well-marked history of indigestion, and the suddenness and completeness of the collapse made it practically certain that the patient was suffering from a perforation of the duodenum rather than of the stomach. It was possible, too, to go further than this and to say that the perforation was not of any great size, because as soon as the initial shock was over the patient began to rally, since his pulse was obviously better when I saw him at half-past 11 than when he was first seen by Dr. Aitken, and it was better then than when the medical man who saw him two hours earlier had injected strychnine hypodermically because he was pulseless. This rallying power of patients with duodenal perforation must always be kept in mind, because it has misled many surgeons into waiting for more definite signs or into underestimating the severity of the case. The explanation of this power of rallying seems to be that perforation of the duodenum occurs usually in persons who are otherwise healthy: the perforation is small and the contents of the duodenum are alkaline, not very septic, and free from partially digested masses. When the peritoneum has recovered from the first shock of invasion by the intestinal contents it only resents mildly the presence of the duodenal secretion until the multiplication of pyogenic organisms sets up a general suppurative peritonitis. Until one has seen a case of duodenal perforation and watched its progress untreated it is difficult to believe that the patient lying before you in tolerable comfort with his abdomen moving fairly well and with only a tender spot over his pylorus and some fulness and tenderness in one or both iliac regions and a rapid pulse is really on the brink of death and that you have waited too long to save his life by any surgical operation. But here is a case in point. It occurred some years ago when less was known of duodenal perforation than at present and it was one of the first cases I saw.

A porter, aged 41 years, was admitted to the hospital on May 23rd, 1901, saying that he was at work and quite well until 11¼ A.M., when he was suddenly attacked with pain in the epigastrium. The pain continued and he vomited several times before coming to the hospital. He had not passed flatus since the pain began; his bowels had been well opened the day before he was taken ill. He was a temperate man and there was no history of indigestion. On his admission to the hospital at 2 P.M. the patient was reported to be a well-nourished man in obvious pain. His tongue was clean and moist; his respirations were very shallow and 60 a minute; his pulse was of fair volume and tension, regular, and 100 a minute. In the chest the percussion note was impaired at the right base and the entry of air over this area was weaker than on the left side. There were no additional sounds. The pain in the abdomen was not localised but the patient complained of it chiefly over the upper half and down the left side. The abdomen was not distended but it moved very little during respiration. The movement, however, was equal all over, though the abdomen was held somewhat rigid. It was tender all over and tympanitic everywhere except that the liver dulness was present. Nothing abnormal could be felt.

It was thought to be impossible at this time to make any definite diagnosis and directions were left that he should be

carefully watched on the assumption that the case was rather one of pulmonary than of abdominal trouble. There was no definite change at 6 P.M. An enema saponis had been retained but the pain had not been relieved by poulticing. The temperature at this time was 99·8° F., the pulse was 120, and the respirations were 60. At midnight there was still no material change in the condition of the patient, whose temperature was 99·8° as before, pulse 120, and respirations from 60 to 70. A little liquid had been vomited. At 1 A.M. the abdomen was distended and the patient was slightly collapsed with a pulse of 144, almost running. At 2 A.M. he was still more collapsed and I saw him for the first time as I was doing the night work of one of my senior colleagues. He appeared to me to be so ill that I decided to explore his abdomen at once. I therefore opened it in the middle line above the umbilicus. Liquid contents escaped as soon as the peritoneum was incised, the stomach was drawn up into the wound, and a perforated ulcer was found apparently on the posterior aspect. The aperture was large enough to admit a full-sized probe and there was a considerable deposit of lymph round its edge. An attempt was made to close the perforation by Lembert's sutures, but the operation was very difficult, partly on account of the awkward position of the ulcer and partly owing to the rotten state of the surrounding tissues which were too softened to retain the silk sutures. Four sutures were passed and it seemed as though the opening had been closed successfully. During the insertion of the sutures there was an abundant flow of clear and thin liquid from the interior of the duodenum, but this ceased when the last suture was tied. The peritoneal cavity was then cleansed and the wound was closed. The patient bore the operation badly and died five and a half hours later. A post-mortem examination at 3 P.M. on the same day showed that the whole peritoneum was acutely inflamed, its endothelial aspect being covered with a layer of fibrino-purulent lymph. There were collections of purulent matter at the bottom of the recto-vesical pouch, in the lumbar region, and in the right subphrenic space, this space being almost completely shut off from the rest of the peritoneal cavity. A conical ulcer measuring half an inch at its widest part was situated at the upper and back part of the first portion of the duodenum. It had sharply-cut edges but there was no infiltration of its margins. The floor of the ulcer had perforated but my sutures were not applied accurately because water and intestinal contents passed easily through the perforation.

The particular interest of this case lay in the fact that the localised peritonitis must have lasted a much longer time than the sudden onset of symptoms would have led one to suspect, whilst the symptoms when they appeared were so obscure as to make it appear to competent observers that the patient was suffering from pneumonia rather than from peritonitis. It is interesting, too, because it is a record of the course taken by a case of perforated duodenal ulcer which, though carefully watched, was practically untreated and it shows the suddenness with which a patient in this condition passed from comparative ease into the jaws of death.

The prognosis in cases of duodenal perforation is bad and the average mortality is much higher than in perforation of the stomach. Many die from shock, some from peritonitis, others from pneumonia ten days or a fortnight after the perforation and just as the surgeon is beginning to hope that he has got his patient beyond any fear of a relapse.

The prognosis of duodenal perforation will improve as the condition is more generally recognised and its special dangers are more widely understood. Perforated gastric ulcer had as bad a prognosis a few years ago, though the signs which accompany it are far plainer than those of duodenal perforation. Gradually we have become alive to the facts and have learnt that immediate operation is followed by recovery in most cases, whilst to wait almost certainly means death to the patient. Cases are now sent to us much more quickly than they used to be—indeed, the last man I operated upon was at work at half-past twelve one morning, had signs of gastric perforation at one o'clock, and by three the same afternoon I had operated upon him and he was safely back in bed. It is needless to say that he recovered without a bad symptom. The advice that I would offer you, therefore, in cases of duodenal perforation is to operate at once when you have reasonable grounds to suppose that such a catastrophe has taken place. Do not wait until you have definite signs to depend upon. The pulse, the temperature, and the degree of movement of the abdominal walls may all deceive you. The patient will recover from the initial shock if he be watched and yet all the time his peritoneum is becoming more and more involved, so that valuable time is being lost if you allow his general condition to weigh against the advisability of an operation. When you are in doubt examine the abdomen. Fulness and tenderness over the appendix region should not mislead you, but you should at once ascertain whether there is not an equally tender spot with resistance higher up and on the same side of the abdomen over the situation of the duodenum. If there is such a tender spot and it be associated with the other signs and symptoms of duodenal perforation then operate without more ado, for in this way, and in this way only, you will reduce the mortality to a minimum.

The operation will be difficult or easy according to the position and surroundings of the ulcer which has led to the perforation. A duodenal ulcer is usually conical, its apex is directed outwards, and the actual perforation therefore is small, often no larger than the point of a probe. One or two sutures may be enough to close it. It is situated in the majority of cases in the first part of the duodenum, close to the pylorus and on the upper and anterior wall. The more difficult cases, some of which it is impossible to close by suture, are those situated on the posterior aspect of the duodenum or in its second or third parts as well as those where the intestinal wall is softened by inflammatory products or is surrounded by adhesions. The perforation is closed with sutures of No. 1 silk inserted with a quarter-curved needle after the intestine has been brought as close to the surface as possible; when it is impossible to bring it into the wound I have often found a cleft palate needle and cleft palate forceps serviceable, so I have these instruments put out for me whenever I have a case of gastric or duodenal perforation to operate upon. When the perforation is closed and the intestine has been replaced in the abdominal cavity a large drainage-tube without any holes in the sides is passed into the abdominal cavity and the incision is closed in the usual manner. I then open the peritoneal cavity in each iliac region as a matter of routine and insert a large drainage-tube on each side. There is nearly always a considerable escape of fluid from these lateral incisions and they continue to discharge longer than the first wound over the duodenum. The tubes are emptied twice a day by sucking up their contents with a male glass urethral syringe to which a small rubber tube is attached. It is a better plan than that of taking the tubes out and syringing the sinus. The tubes should be dispensed with as soon as possible, because adhesions quickly form round them and shut them off from the general cavity of the peritoneum and they then serve no good purpose but act as irritants and increase the amount of discharge. They may be removed within the first week and the wounds are then packed lightly with gauze. When the patients recover they do so perfectly, for they do not seem to be subject to the relapses which are so common in cases of perforated gastric ulcer. One other point and I have finished. Duodenal perforation occurs four times more often in men than in women, and no one knows why.

THE SACCULAR THEORY OF HERNIA AND THE RADICAL OPERATION.

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BY the saccular theory of hernia I mean the theory that rejects the view that hernia can ever be "acquired" in the pathological sense and maintains that the presence of a developmental peritoneal diverticulum or sac is a necessary antecedent condition in every case of ordinary abdominal hernia. In the numerous articles which I have contributed to THE LANCET during the last seven years on this subject [1] I have always been content to speak of the "congenital origin" of hernia or of "hernia into a congenital sac"; but for reasons that I have pointed out on several previous occasions there are special inconveniences associated with the use of the word "congenital" in connexion with hernia, and I am therefore prompted to suggest a name which has

[1] THE LANCET, Nov. 18th, 1899, p. 353; Oct. 20th, 1900, p. 1128; May 31st, 1902, p. 1519; March 12th, 1904, p. 707; and Jan. 7th, 1905, p. 7.

the great advantage of being at once unobjectionable and appropriate.

I think I am entitled to say that for the moment there exist two schools of surgical opinion in respect of hernia. There is a small school of surgeons who are convinced of the truth of the saccular theory of hernia, and a very large body of surgeons who do not as yet see sufficient reason for so radical a change of opinion. Of these again I am sure I am safe in saying that a large number are experiencing some feeling of interested doubt; to give a stimulus to that feeling and perchance contribute something towards the resolution of that doubt are among the main objects of this article. I regard it as impossible that so wide a division of opinion as this can be other than a very transient episode; it is certain that the saccular theory will be either universally accepted or universally rejected in the near future.

In all the more recent communications that I have made to THE LANCET I have laboured to prove the truth of the saccular theory by directing attention to the significance of a great body of clinical facts and the deductions from them that are forced upon us in response to accurate observation and careful reasoning. I have pointed out that there is not a single fact at our disposal which, if scrutinised closely enough, is not at once in revolt against the traditional view as to the etiology of hernia and in complete harmony with the saccular theory. On the present occasion I do not intend to pursue the subject further on the same lines as heretofore. The saccular theory will fail or prevail as it is false or true; it will not, however, perish from want of recognition. This is rendered assured by the admirable contributions which have been from time to time made to the subject by Stiles, Deanesley, R. W. Murray, and other surgeons; and notably by the result of the series of necropsies performed at the Mill-road Infirmary, Liverpool, at Murray's instigation, and communicated by him in a paper to THE LANCET.[2] In this investigation 100 bodies were examined, 61 males and 39 females. Of the 61 males 13 bodies showed potential hernial sacs, the total number of sacs being nine inguinal and 12 femoral; two sacs contained omentum. Of the 39 female bodies hernial sacs were found in eight, the total number of sacs being nine femoral and one umbilical; two of these sacs contained omentum. This preponderance of femoral sacs is a surprise to me and opens up questions of interest that call for further inquiry; I will not stay to allude to them here.

With reference to these pathological observations I cannot forbear to call attention to a sentence that will be found in a paper which I published in THE LANCET[3] in 1902: "I would suggest that if some of our pathological friends who have the opportunity of making large numbers of post-mortem examinations would examine the hernial orifices in a large number of bodies they would be enabled to make some very valuable and interesting observations with reference to this matter." This, which sounded at the time a most unwarrantable and reckless statement, was not so in reality. Apart from the fact that the clinical evidence alone would be inexplicable I had seen such sacs in bodies. Moreover, I was immediately furnished with very interesting evidence that such sacs must have been often seen by other observers, but with eyes that seeing yet saw not; and this, not from want of skill in accurate observation, but from inability to attach any significance to the incident because no significance chanced to occur to them and none had ever been suggested. The sentence quoted was uttered at the Hobart meeting of the Australasian Congress in 1902. Out of my audience of perhaps 20 to 30 medical men two surgeons were able to recall the fact of having observed such sacs. One distinguished observer, Professor A. Watson of Adelaide, had observed a femoral and an obturator sac co-existing; another surgeon remembered to have once by chance seen a femoral sac. Neither of these gentlemen had been able to attach any special significance to the fact, which had lain slumbering in the storehouse of the memory until suddenly aroused by my suggestion as to the essential part played by such sacs in the production of hernia.

It has occasionally been intimated to me that the practical purport of the saccular theory is not very evident. I have even been asked, "What does it matter?" I purpose in this paper to answer that question, and as a preliminary I wish to point out the defects in our present position with regard to hernia. They are glaring and obvious, but we have become habituated to regarding them with equanimity. They are as follows: (1) A double etiology (congenital and acquired) with resulting uncertainty as to the fundamental principle of treatment; (2) a multiplicity of operations, an infallible sign of vagueness and uncertainty of principle; (3) uncertain results of operation due to uncertainty as to the principles governing it; (4) a fatal facility for explaining away failure as being due to inherent weakness of the muscular structures in the inguinal region (this explanation is always fair and quite warranted by the accepted but erroneous views as to the etiology of hernia); and (5) the misuse of the truss, notably in the case of children. Here at any rate is a field that offers scope for improvement, and I shall now state what the saccular theory will do for the surgery of hernia, following the above five clauses *seriatim*. It will have for results: (1) a single etiology, with a fixed principle of treatment; (2) a single operation, the removal of the sac; (3) certainty of good result provided the operation has been performed faultlessly; (4) the recognition that if recurrence takes place it will be the result of an operative defect; and (5) the abolition of the truss except for cases in which operation is contra-indicated or declined. It is not pretended that this is a modest undertaking, and in order to support it I shall be so venturesome as to rewrite largely the main essentials of the theory and practice of surgery in respect of hernia, showing in what way and to what extent our views, first, as to the etiology and classification of hernia, and finally, as to the operation for its radical cure, will in my opinion be altered by the saccular theory. Let me hasten to explain that there is nothing visionary or prophetic in what I am about to write. There is not, I believe, a word in the section of etiology and classification that is not in substance inevitable; there is certainly not a word on the subject of the radical cure that is not based on the record of my own practice and personal observation. Let me finally add that in this paper the truth of the saccular theory is assumed, and that where any statement is made unsupported by any reasoning and in violent conflict with accepted views the arguments in support of it will have been fully dealt with in previous papers.

GENERAL CLASSIFICATION OF ABDOMINAL HERNIÆ.

There are three groups of abdominal hernia which I will distinguish in their order of frequency as (*a*) saccular, (*b*) traumatic, and (*c*) congenital. Of these three groups the saccular form comprises all cases of ordinary hernia, and will therefore include all the varieties of inguinal, femoral, and umbilical hernia, together with the less commonly seen varieties, the obturator, ischiatic, &c. Traumatic hernia will indicate the hernial protrusions seen after injuries of the abdominal wall, notably after surgical operations. Congenital hernia, a term that has been the source of endless obscurity and confusion in the past, will find its proper sphere in indicating only such forms of hernia as are actually present at birth. Such are those that result from congenital imperfections in the abdominal wall in the middle line; or elsewhere, mostly in the lumbar region as the result of congenital insufficiency of the musculature. The term is also applicable to certain cases of saccular hernia in which the hernia is present at birth. No confusion will be caused by using the adjective "congenital" in this way; and the great inconvenience to which we have been subjected in the past by the use of the term to signify a form of inguinal hernia that frequently makes its first appearance late in life, and that is no more congenital that any other form of saccular hernia, will pass from us. For the present I propose to deal only with the saccular varieties of hernia and their treatment by operation.

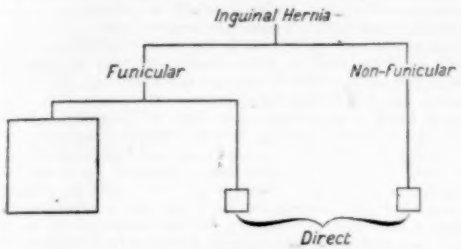
SACCULAR HERNIA.

Saccular hernia is a term that covers all those forms of abdominal hernia which result from the descent of some portion of the abdominal viscera into a sac. The sac upon which the occurrence of hernia will be ultimately dependent is a peritoneal diverticulum of developmental origin, and its formation is to be traced back to an early period of embryonic life. It is seen with especial frequency in situations of close proximity to important vessels that pass outwards from the abdomen into the limbs, such as the femoral, the obturator, and the ischiatic vessels; its presence is doubtless due to the accidental involvement of a portion of the wall of the primitive pleuro-peritoneal cavity in the developing limb. In the inguinal canal the hernial sac is provided by a peritoneal diverticulum that is normal and purposeful, the *processus vaginalis testis*. This under the

[2] THE LANCET, Feb. 10th, 1906, p. 363.
[3] THE LANCET, May 31st, 1902, p. 1519.

most favourable conditions should be obliterated soon after the descent of the testis. Failure of obliteration, partial or total, together with infinite variety and irregularity in anatomical arrangement, provides the surgeon with more varied and interesting material in the inguinal region than in any other of the seats of hernia; and it will be with the varieties of inguinal hernia that I shall mainly deal.

The etiology of inguinal hernia.—There are two etiological divisions of inguinal hernia, the funicular and the non-funicular. Of these the funicular process provides the enormous majority of inguinal herniæ, while only a very small minority are non-funicular. Inguinal hernia is also divided into the classes of oblique or external and direct or internal. Of these the enormous majority are oblique, while direct hernia is relatively infrequent. The etiological relationship of these two classes is as follows. The whole of the large group of oblique inguinal herniæ are of funicular origin and in addition a proportion of the direct group is also provided by the funicular process. Of non-funicular origin there will thus be only a moiety of the small class of direct herniæ. This anatomical and etiological relationship may be conveniently expressed diagrammatically thus:—



Some idea of the relative frequency of occurrence of the oblique and direct varieties of inguinal hernia may be conveyed by the statement that in an experience of nearly 300 cases of hernia in children and adults I have met with direct hernia only three times; on two of these occasions the hernial sac was of non-funicular origin. Thus by sheer force of numbers and of infinite variety the anatomical class of oblique inguinal hernia takes a predominant position as compared with the direct; while even more comprehensive is the etiological class that owns a funicular origin, for this will include not merely the whole of the oblique inguinal herniæ, but in addition the most interesting and important section of the direct.

The processus vaginalis and the varieties of funicular hernia.—Where the formation of the processus vaginalis and the descent of the testis have proceeded normally, the serous covering of the testis will be continuous with the peritoneum by a slender tube of serous membrane passing through the length of the inguinal canal. Obliteration of this tube should now take place from the point where it debouches into the peritoneum above, to a spot near the testis below. It is at the upper end of the funicular process that the progress and accomplishment of obliteration assume features of special interest to the surgeon and of importance to the future of the individual. When the peritoneal tube is obliterated fairly up to the level of the opening in the transversalis fascia the occurrence of inguinal hernia in the future will be impossible. Failure of obliteration in the upper portion of the tube will leave a peritoneal diverticulum the magnitude of which will depend on the extent to which the obliterative process has fallen short. All varieties of oblique inguinal hernia owe their occurrence primarily to failure of obliteration in the upper portion of the funicular process, while their various anatomical characteristics are all of them determined by accidental variations in the anatomical arrangement of the funicular process itself. There are thus presented by the funicular process two distinct groups of phenomena for examination. Of these one group is dependent upon variability in the process of obliteration, while the other is governed by primary anatomical variations of developmental origin. To these two groups must be added a third, which I have called "viscero-saccular herniæ"; this group will comprise an important class in which the formation of the funicular process has been attended by the dragging of some neighbouring viscus or portion of a viscus into the inguinal canal. These three groups will now be examined in some detail.

GROUP 1. *Variations due to obliterative failure.*—These are exceedingly simple. In Fig. 1, A represents the funicular process, open throughout, as it is normally on the completion of the descent of the testis. In B there has been failure of obliteration in the upper portion of the funicular process, leaving a diverticulum from the peritoneum. C, obliteration perfect, rendering the occurrence of hernia impossible. There are two varieties of inguinal hernia that owe their

FIG. 1.

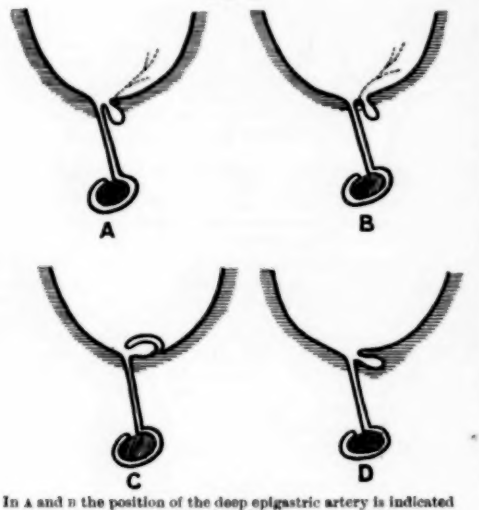
The dotted line represents the obliterated portion of the funicular process.

origin solely to obliterative variations, and they are indicated in A and B. (*a*) Complete failure of obliteration, so that the funicular process remains open throughout (Fig. 1, A). The resulting hernia will be an example of *total funicular* hernia. This has been called indifferently "congenital hernia" or "hernia into the tunica vaginalis." The former term must be abandoned as applied to this variety of inguinal hernia, and the latter does not seem to be well chosen. (*b*) Failure of obliteration in the upper portion of the funicular process (Fig. 1, B). The resulting hernia will be a *partial funicular* hernia; this has hitherto been known as funicular hernia. These two varieties, total and partial funicular, are the only varieties of hernia proper that depend upon mere obliterative variations in the funicular process. The number of possible variations of this character are infinite, but they are capable of producing only variations in the size of the partial funicular hernia on the one hand, or, on the other, of bringing about various clinical types of hydrocele, either hydrocele of the tunica vaginalis or of the cord, which may or may not be associated in addition with a partial funicular hernia.

GROUP 2. *Primary anatomical variations due to developmental accidents.*—The embryonic period at which the funicular process is formed is one of extreme activity and rapid change, and the slender tube of peritoneum is at this time imbedded in a mass of mesoblastic tissue that is performing rapid evolutions in its progress towards the ultimate formation of a perfect inguinal region and scrotum. As a result of this circumstance apparently we find that the funicular process becomes, as it were, caught here and there by the neighbouring structures and dragged by them into anomalous and unusual positions. Lockwood has directed attention to the part probably played in this process by a quantity of involuntary muscular tissue which is distributed over this region of the peritoneum, and of which certain portions are distinguishable as the gubernaculum testis. This is doubtless the correct explanation of the great variety of secondary sacculations and other irregularities that are observed in the funicular process with extreme frequency; nor are these phenomena peculiar to the funicular process, for they are observed with fully equal frequency in the case of the femoral sac. To this proneness to irregular sacculation of the funicular process we are indebted for all the named varieties of inguinal hernia other than those I have already alluded to as total and partial funicular. I will briefly indicate the important positions such secondary sacs are liable to adopt. In the following descriptions it will be understood that the sac, in every instance, is a single diverticulum from the wall of the funicular process, and that the main tube of the funicular process may be either completely open, or completely closed, or partially closed. The infinite variety of the possible clinical combinations will be obvious. Fig. 2 A represents what I believe to be the most frequent form of secondary sac. It will be seen springing from the inner side of the hernial sac high up but below the epigastric artery. The hernia will usually enter the main portion of the funicular process; I have known, however, a hernia to come suddenly down into such a secondary sac, while the funicular process was open throughout as I have here represented it. Fig. 2 B represents a form of hernial sac closely akin to the last but of extreme interest and

surgical importance. The sac comes off from the funicular process high up and descends on the inner side of the epigastric artery. Hernia descending into this sac will therefore be a direct or internal hernia of funicular origin which we must name direct or internal funicular hernia. It is fortunately somewhat rare and the treatment is difficult and will receive

FIG. 2.



In A and B the position of the deep epigastric artery is indicated by a dotted line.

special notice later. The close kinship between these two varieties and the sacs of interstitial and properitoneal hernia (C and D) will be noted. To these it is hardly necessary to add a diagram showing a position of the sac frequently seen—viz., on the surface of the aponeurosis of the external oblique. These three last forms of hernia are often seen in conjunction with imperfect descent of the testis; this has seemed to me to apply more especially to the last-named of the three. It has been thought that the imperfectly descended testis might, by acting as an obstruction in the canal, be causative in the production of interstitial and properitoneal hernia; this view is at once disposed of by the consideration that, in the first place, interstitial and properitoneal hernia may occur without any association with retained testis, and secondly, that the sac of interstitial or properitoneal hernia is commonly found in cases of imperfectly descended testis in which no hernia has ever been present.

The foregoing description of various kinds of anatomical variation has dealt with cases that are clinically unusual by the fact that the sac occupied by the hernia is an offshoot from the normal one, the funicular process proper. There is yet another group of anatomical irregularities in which there are irregular dispositions of other portions of the funicular process which obscure the normal relationships of the hernial sac and are apt to cause embarrassment to the operator. I observe that it is still the custom of authors to discourse upon these varieties under the heading of "infantile" hernia, a term that I think might with advantage be suffered to lapse. Much light has been thrown upon the mode of origin of these varieties by Lockwood. The subject is too extensive to be conveniently dealt with here, and I have nothing to contribute in furtherance of the immediate objects of this paper.

GROUP 3. *Developmental accidents resulting in the implication of abdominal organs in the formation of the funicular process.*—The mode of origin of this group of hernial variations is readily understood if we cast back to the embryonic period at which the sac is formed. In the course of the events that result in the inclusion of a portion of the peritoneum in the inguinal canal and scrotum, it not infrequently happens that one of the abdominal viscera which receive a peritoneal covering will be encroached upon. In this way a portion of the bladder may be drawn into the canal with the sac. On the left side the terminal portion of the descending colon and the commencement of the sigmoid are sometimes seen, while on the right side (in rare cases, on the left) the cæcum may appear under these conditions. It is clear that the protruded viscus in these cases will have a special relation to the hernial sac, which relation will be quite distinct from that of a structure herniated in the ordinary way. Thus, in a hernia of the bladder the bladder will not be in the sac but *of* the sac; actually outside of it but virtually contributing to the formation of it. The same will apply to this particular description of hernia of the cæcum and the sigmoid. The relationship between the herniated organ and the sac in these cases will be alluded to again in the description of their operative management. It is only needful here to remark that the relationship of these various structures to the sac is not necessarily that which I have here described. It is possible for the sigmoid flexure or the cæcum to be quite free and unattached in a hernial sac. It is also stated by some authors that even a portion of the bladder may be actually inside the sac. I have never myself observed anything like this in the case of the bladder and I find difficulty in conceiving its occurrence.

Congenital hernia of the omentum.—This is a variety of hernia *sui generis*, and I wish to allude to it here on account of its importance which does not seem to me to have been quite appreciated. It is seen in its most interesting form in young children when it often causes difficulty in diagnosis. It also frequently fails to attract the notice of the child's parents, hence it is seen in operations later on in life. It is usually present as a long, thin strip of omentum passing down the funicular process, to which it will sometimes have contracted an adhesion. I have observed instances of both total and partial funicular sacs occupied by a strip of omentum in this way. There is no doubt that its presence in the funicular process is the result of a developmental accident, and the affection is, in the proper sense of the term, congenital. I have formed a very strong opinion that in the large majority, if not in all, of the cases in which omentum is found during operation at any period of life as one of the constituents of a hernia, the omentum has been present at birth. The chain of events is obvious, for when an individual has harboured an omentum-containing sac for years without being aware of it, the occurrence of an enterocele will not convey to him or to the surgeon any suggestion of the antecedent condition. On the other hand, in operating upon adults, I have so often met with the curious long strip of omentum with which I have become familiar in the congenital omental herniæ of children that I could have no doubt as to its congenital origin. I am further impressed on reflection by what would appear to be extreme improbability in the belief that a piece of omentum should be the first structure to insinuate itself into a hernial sac; or again, that it should ever succeed in worming itself past the intestine into an enterocele already formed. It is noteworthy in this connexion that in Murray's series of post-mortem examinations above alluded to a piece of omentum was found in the potential hernial sac on four occasions.

Femoral hernia.—I mention this form of hernia in order to point out, not for the first time, a most interesting result of the saccular theory in explaining the frequent ascent of femoral hernia over Poupart's ligament. No explanation worthy of, the name has ever been offered of this remarkable phenomenon; but the reason for its occurrence becomes at once evident when we learn that the sac of a femoral hernia is a congenital structure. I have explained this very fully in THE LANCET on two previous occasions.[4]

The radical cure of hernia.—I do not propose to give here a formal description of the anatomy of the inguinal canal. I would, however, venture to call attention to what I conceive to be the salient features of its protective mechanism against the occurrence of hernia. Let us view it as composed of two layers; a substantial muscular layer externally, lined by a slender peritoneo-fascial layer internally. The structures of the cord curving upwards above Poupart's ligament pass first through the transversalis fascia, by which they are closely embraced, and which is carried down on the cord forming its most intimate covering. The opening in the fascia that permits the exit of the cord from the abdominal cavity is the internal abdominal ring. From its entrance into the canal at the internal abdominal ring the cord passes obliquely through the abdominal wall, closely embraced by the muscular layer, until it emerges at the

[4] THE LANCET, May 31st, 1902, p. 1519, and March 12th, 1904, p. 707.

external abdominal ring. In considering the respective parts played by these two layers of the abdominal wall in the prevention of hernia it is obvious that the entire burden must fall upon the muscular layer. It will be seen that while the fibres of the internal oblique and transversalis spring from the outer two-thirds of Poupart's ligament, they pass to be attached through the medium of the conjoined tendon to the bone of the pubic ramus at a lower level than Poupart's ligament. Their contraction, therefore, will result in an effect on the canal in the nature of that of a sphincter. Or if it be objected that the nature of this muscular action hardly warrants the use of the term sphincter, "a thing that closes," it will at least be conceded that it is entitled to that or any other term appropriate to a thing that "prevents opening." Hence it is convenient for want of a better word to speak of it as a sphincter. The production of hernia is dependent on such increase of the intra-abdominal pressure that the retentive power of the abdominal wall fails at some specially weak point. Such increase of internal pressure is, with very rare exceptions, dependent on some muscular effort performed by the individual; in the absence of such effort the intra-abdominal pressure may be regarded as practically *nil*. Hence it is during the performance of some arduous feat or the lifting of a heavy weight that hernia is most prone to occur. Now the anatomical arrangement of the inguinal sphincter provides that any effort such as to endanger the inguinal canal will be resisted with a force in direct ratio to the effort expended; it therefore constitutes an automatically acting protective mechanism exactly adjusted to the requirements of the moment. Were there no other protecting mechanism than this watching over the inguinal canal it is extremely improbable that inguinal hernia could ever occur; but there is an abundance of additional security. The whole region is powerfully supported by the external oblique aponeurosis except at the external ring, which, on the other hand, is effectively shielded by the conjoined tendon and the rectus; while the internal abdominal ring is supported in addition by the lowermost fibres of the internal oblique as they spring from their attachment to Poupart's ligament. Thus a normal inguinal canal is fortified against the occurrence of hernia to a perfection and a degree of strength in extravagant excess of any demand that can be made upon it by the feeble intra-abdominal pressure. That this is not a mere matter of theorising is proved by the fact that even the presence of a sac in the form of an open funicular process is not necessarily productive of hernia. When, however, we turn from the muscular layer of the abdominal wall to the peritoneo-fascial layer we find there the key to the situation. The presence of a peritoneal diverticulum into the canal is alone able to place the muscular apparatus at so great a disadvantage as to render the occurrence of hernia possible. Upon the foregoing considerations are based the two following propositions which are fundamentals in the operative treatment of hernia. (1) Where there is no developmental sac such as is provided in the case of the inguinal canal by incomplete obliteration of the funicular process, there can be no hernia; (2) the normally formed inguinal canal is endowed with a strength and retentive efficiency for resisting hernia, enormously in excess of any demand that can be made upon it by the mere intra-abdominal pressure unaided by the presence of a sac.

Of these two propositions the second would perhaps be more correctly designated an explanation rather than a guiding principle, for it finds its main field of usefulness in rendering intelligible the success of removal of the sac even after the inguinal region has been extensively damaged by the prolonged existence of hernia. Hence it will follow as a logical conclusion that early removal of the sac after the appearance of a hernia will constitute a radical cure of the affection, and that recurrence will be impossible. It will also follow from the second proposition that late removal of the sac after the abdominal wall has sustained much injury will probably prove a radical cure, and that recurrence will be unlikely to take place. I am of opinion that this last statement errs in the direction of caution; for my belief is that recurrence in even the most unfavourable class of old-standing hernia will be so rare as to be practically unknown after removal of the sac has been performed with all due care and in the best possible way. At the risk of appearing to begin my description at the wrong end I will illustrate this by the case of a man, aged 75 years, who suffered for 30 years from double inguinal hernia, small and reducible on the left side, very large and irreducible on the right. I operated on the right side at his special request in October, 1904, removing an enormous sac and a large quantity of omentum. He wore a single truss on the left side after the operation. He was last seen a year after the operation when the result was apparently perfect. The operation consisted in removal of the sac alone with the precautions indicated in the following description. Fig. 3 is designed to show the large hole in the abdominal wall into which the canal becomes converted in such large old standing hernia as this. Surgeons will recall the appearance after the sac has been tied off in the ordinary way. There is a considerable area of the peritoneo-fascial layer exposed, and it is customary to cover this over by drawing the muscle down over it by means of sutures to Poupart's ligament. This makes a nice-looking operation, but let us for a moment criticise it. In the first place I would point out that, on the face of it, the sac has not been completely removed. The boundaries of the mouth of the sac lie under cover of the arched fibres and Poupart's ligament; hence the whole of the area of peritoneum and fascia exposed in the aperture belongs to the sac and should have been removed with it. Had this been done it is obvious that the hole in the abdominal wall would have been closed, or nearly closed, thereby. My own method of doing this is by means of a form of ligature which is fixed at the four points indicated in the diagram by the letters A, B, C, D. It is inserted into the peritoneo-fascial layer under cover of the muscles, and when tightened will draw the entire periphery of the exposed area

FIG. 3.

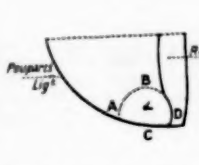
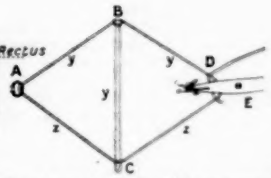


FIG. 4.



In Fig. 3 A, B, C, D indicate the points of fixation of the submuscular ligature.

In Fig. 4 A, B, C, D correspond to the points thus indicated in Fig. 3.

into the knot. This having been done it will probably appear to the surgeon unnecessary to suture the muscular aperture, although, doubtless, no harm would be done by one or two catgut sutures lightly introduced; they would be, however, quite unnecessary and useless, and therefore better omitted. If now we contrast this procedure with one of the customary suturing methods, it will be seen at once where the difference lies. To start with, in the latter case the sac will have been incompletely removed and the hernial aperture closed by closure of the outer muscular stratum of the abdominal wall. By the method I have described the sac will have been completely removed and the hernial opening closed by closure of the deep or peritoneo-fascial layer. There can, I think, be no case for discussion as to which of the two methods is the more correct in principle. The knot I have mentioned is shown in Fig. 3. It is easy to apply and has the advantage that it completely incloses the area, while fixed at the points A, B, C, and D. The ligature is mounted first on an ordinary curved needle and is passed through the peritoneo-fascial layer at A well out under the muscles and tied once, leaving the two ends Y and Z long. By means of a carrier a loop from Y is passed through from B to C, leaving a long end hanging from B. The end Z is now passed through the loop at C and the ends Y and Z are finally tied behind a pair of pressure forceps applied at the point D. When the ligature is tightened the four points A, B, C, D will converge to the knot. It is a simple matter to test the efficiency of this knot on a piece of cloth.

I have described this method of operating at what may appear to be undue length, because the principle which it illustrates is the fundamental principle that governs the successful treatment of hernia by operation. This principle may be briefly expressed as closure of the hernial opening by means of the peritoneo-fascial layer of the abdominal wall and not by the muscular layer, which will take care of itself. The success or failure of any mode of operating will depend directly upon the extent to which the surgeon is guided by this principle and the acuteness with which he realises that

recurrence, if it takes place, will be due to the peritoneo-fascial layer alone and that all his attention must be directed to that. As a matter of fact, it is only in such old-standing cases as that we have just considered that the fascia is included in the ligature. In more recent and favourable cases of hernia the fascia is pushed aside and the ligature is applied to the peritoneum alone. This will be illustrated by the following brief description of an operation for recent simple hernia.

Operation for recent partial funicular hernia.—The sac having been isolated is firmly pulled upon by the left hand aided by a pair of pressure forceps, while the right hand strips the fascia upwards from its neck with a dissecting forceps. By thus freeing the sac from the fascia the peritoneum can be forcibly pulled down to the utmost limit. If the neck of the sac be now obviously clear from any complicating structure it is ligatured as high up as possible and dropped back. The ligature I employ in a simple case is usually a simplified form of the knot I have just described—i.e., simplified by the omission of the initial tie at A and of the pressure forceps at D. It will be noted at once that in this proceeding, by clearing the fascia from the neck of the sac, the peritoneum can be reached at a higher level; and after the sac has been cut away and the stump allowed to drop back it will lie well within the layer of fascia which will close over it, and a mere scar in the fascia will be left.

The only variation in technique that I need allude to is that appropriate in cases that are not very recent, and in which there is a tendency for the peritoneum of the inguinal fossæ to sag out of the wound while the sac is being pulled down. Where this occurs I remove the sagging peritoneum along with the sac by means of the following manœuvre. The sac is opened and the left index is passed into the abdominal cavity and into the inguinal fossæ, and the structures now lying upon it are lifted firmly upwards out of the wound. The epigastric vessels are exposed by stripping the fascia and fat inwards with a forceps, and the vessels themselves are carefully pushed inwards over the finger-tip until all the loose peritoneum of the inguinal fossæ is brought external to the epigastric vessels and appears on the finger as a kind of secondary sac. This is now included with the hernial sac in the ligature and removed. There is one other complication frequently encountered during the performance of this operation. The bladder will often appear during the process of clearing the peritoneum on the finger. It is important to be on the watch for the muscular coats of that organ and should it be observed it can be readily peeled back for a short distance. Should it not be recognised there will be danger of its inclusion in the ligature. I have heard of such an occurrence as a urinary fistula after operation for hernia. I desire here to add a word of caution which I beg may be carefully noted. The mode of operating I have just described is applicable to adults alone; in no circumstances must any such procedure be attempted in the case of a child.

Operation in total funicular hernia.—Where the funicular process is patent throughout the method of procedure in isolating the sac will be somewhat different from that described above, because the sac will not at first be seen. Where this is the case the right course to pursue is to find and isolate first the vas and then the vessels of the cord, and then take the remainder which must contain the funicular process on the palmar surface of the left index finger while the vas and vessels hang down on the dorsal aspect. Cut across the portion on the palmar surface and see the open mouths of the divided funicular process, seize the upper one with pressure forceps, and proceed to strip it upwards and remove it within the internal ring as before described. The lower portion of the funicular process which is continuous with the tunica vaginalis may be disregarded.

Operation in direct funicular hernia.—The existence of this form of inguinal hernia has, I believe, been overlooked, and consequently the management of it does not appear to have been studied. I have no doubt that many of the cases of inguinal hernia that have defied repeated attempts at cure on the part of skilled operators are of this nature. The surgeon will probably first suspect that he has to deal with such a case when, having exposed what appears to be an ordinary inguinal sac, he finds himself unaccountably unable to isolate and free the neck for the application of the ligature. He will then notice that it is not in the usual close relationship with the cord, and on introducing a finger into the sac he will detect the epigastric vessels on the outer side. I have met with but one case of this kind in which I regret to say that I consciously failed because I was unprepared with any plan for meeting the difficulties that were presented and which were new to me. I am quite confident, however, that they might have been easily overcome. It will be obviously right for me to defer any description of the method of procedure I should propose until it has been subjected to the test of experience. Meanwhile, I may be permitted to point out broadly the causes of failure and the principle that must be followed in order to ensure success. A glance at the diagram (Fig. 2, B) will show that any attempt to remove the sac in the ordinary way will result in mere removal of the sac from the main trunk of the funicular process, instead of from the abdominal peritoneum. Such an operation will be sure to fail because the upper opening of the funicular process will be left. The essential feature of the operation to be successful will be the complete removal of the funicular process, together with the secondary sac, from the abdominal peritoneum. In order to do this efficiently it would be necessary to first separate the funicular process or its remains from the structures proper of the cord; then to bring the hernial sac external to the epigastric vessels and remove it, together with the main portion of the funicular process.

Viscero-saccular hernia. Hernia of the sigmoid flexure, cæcum, and bladder.—These forms of hernia may be considered together, for the operative details that are essential to their treatment are identical. In both cases the organ involved has been drawn down with the peritoneum to assist in the formation of the funicular process. The close connexion that consequently exists between the bowel and the sac in such a case may be mistaken by an unpractised surgeon for adhesions. It is strange that although this form of hernia has been well studied by Lockwood and others I have noted a singular omission on the part of authors to describe the management of these cases; and this is not because the treatment is either self-evident or unimportant, as I have good reason to know. I have already dealt with this subject in a paper read before the Surgical Section of the Australasian Medical Congress of 1902 at Hobart, Tasmania.[1] The essential feature in the operation will be the cutting out of the portion of the sac with which the bowel is connected. In either case this will best be done by first clearly defining the whole of the sac and drawing it well out, then running the scissors up on either side of the bowel so far as the abdominal peritoneum; the bowel must now be returned into the abdomen together with the portion of the sac attached to it, and the remainder of the sac ligatured off and removed. For this purpose the knot I have already described will be found very convenient. The sac in this case will in section prevent a hiatus at the part from which the bowel has been cut out. The hiatus, which is at the outer part of the sac, will be conveniently closed by the first step in the insertion of the silk thread at A (Fig. 4).

Hernia of the bladder, while presenting some features of similarity to hernia of the sigmoid flexure and cæcum, differs in one essential particular—viz., that the bladder can be readily peeled off the sac, so that the surgeon has the choice of two methods of dealing with it. I have operated upon four cases of viscero-saccular hernia of the sigmoid at the ages of 2, 22, 32, and 68 years; upon one case only of viscero-saccular hernia of the entire cæcum in an infant, aged five months. All were satisfactorily managed in the way I have described above.

Femoral hernia.—The complete removal of the sac is, if possible, even more important in the case of femoral than of inguinal hernia. It is usually easy but it is necessary to carefully strip away every vestige of fascia from the neck, so that the sac can be freely pulled down. Usually the muscular wall of the bladder will be seen and should be pushed aside a little. When performed in this way the operation will be found to yield perfect results. That this fact has not been long since recognised is due simply to the fact that surgeons have not been impelled to deal with the sac in this thorough manner; hence have arisen a large number of different expedients for closing up the femoral canal. I notice with regret that they still continue to multiply; all are erroneous in principle and absolutely valueless in practice.

My object in this paper has been, not to write an exhaustive essay on hernia, but to display the changes wrought in the aspect in which hernia presents itself to the surgeon, and in the attitude of the surgeon towards hernia by the saccular

[1] THE LANCET, May 31st, 1902, p. 1519.

theory. I am aware that I shall be asked for "results," and there is an incurable habit abroad in our profession of regarding results as in some way associated with "statistics." I accordingly give here the statistics prepared for my paper before the Surgical Section of the Australasian Medical Congress in November, 1905.[6] An interval of one year from the date of operation was taken as the criterion of success. Briefly, out of a total of 89 cases of adult hernia I was only able to trace 63. Of these 63 recurrence had taken place in three. These three recurrences require examining in order that their bearing on the saccular theory may be justly estimated. They are: 1. The case of direct funicular hernia to which allusion has been made in which I failed through ignorance of how to treat it. This is the only one of the three for which I do not hold myself to blame. 2. A man, aged 62 years, with strangulated left inguinal hernia which had just appeared for the first time. He returned five months later with a slight recurrence. (N.B.—It was a case of *total funicular hernia* and therefore can afford no evidence against the saccular theory.) 3. A case of ordinary inguinal hernia in a woman. Shortly after she left hospital she returned with a small recurrence. This is so absolutely contrary to all my experience in this most simple class of cases that I can come to no conclusion but that I must have blundered; in what way, exactly, I know not. So that of the three recurrences, we may fairly put the first two aside as not available in evidence against either the principle or the practice which I have been advocating.

I do not know whether these statistics compare favourably or unfavourably with those of other surgeons, because I do not know the statistics of other surgeons; nor am I particularly interested. The sole interest of my statistics lies in their bearing on the question of the truth of the saccular theory. I have always contended that the final and absolute means of testing the saccular origin of any individual case of hernia is to remove the sac. If the hernia have been an "acquired" hernia, recurrence will take place infallibly; surely there can be no possible doubt as to that. If, on the other hand, the hernia does not recur, then the sac must have been the cause of the hernia. I shall assume that these two self-evident propositions are accepted. This being so, the bearing of my statistics on the saccular theory is as follows. Out of 63 unselected cases of hernia in adults, 62 are proved to have been of saccular origin and the remaining one provides negative evidence only. As a matter of fact, the odd one is really not worth discussing; there is no shadow of doubt that it was identical in nature with the others. I may add that I never consider it necessary to keep my patients recumbent for a prolonged period. They usually leave hospital within the fortnight with injunctions as to ordinary care and quietness for a week or two.

I need not say that removal of the sac for hernia is not a novel suggestion; it is the oldest of the open operations for hernia because it is the most obvious. The history of the various operations for hernia since the introduction of antiseptic surgery is of extreme interest. It furnishes a striking commentary on the necessary supremacy of principles over practice; or better, on the chaos into which practice may fall if it should chance, as in the case of hernia, to fall under the dominance of a mistaken principle. Without attempting to review the various well-known methods, I would like to point out that they seem to divide themselves into two groups: (1) an earlier group, of which the methods of Czerny, Bale, Macewen, and Kocher are types characterised mainly by differences in the management of the sac; and (2) a later group, Bassini, Halsted, and others—in these it is obvious that the main idea underlying them is that of increasing the strength of the inguinal region. Even the justly distinguished surgeon, McBurney, has a quaint mediæval notion of doing this by means of cicatricial tissue; while at the extreme opposite pole stands a continental surgeon with the amazing suggestion of grafting a piece of dog's periosteum over the internal ring. It was owing to a grave flaw in the guiding principle that the first group failed to achieve complete success; it is owing to precisely the same cause that the second group of "degenerates" ever saw the light. These, as they become elaborated, wander farther and farther from the true principles to which the first group were so very close.

The saccular theory bids us to abandon all these more recent devices; it further demonstrates to us the reason why all operations that have been hitherto devised have yielded imperfect results. It places the finger not merely on the defects of all operations for hernia: it denies that any formal operation such as could be associated with the name of a particular surgeon can be of real and comprehensive utility. It answers the obvious comment that will be made on this last statement to the effect that excellent results are obtained by various operations, by pointing out that the excellent results occur only in the cases in which the sac happens to be perfectly removed. It presents us incidentally with a curious seeming paradox; for while on the one hand it shows that there can be no such thing as an operation for hernia, it assures us, on the other, that there can be no such thing as a hernia that is not curable by operation. It promises practically perfect results in the future, far more perfect, at any rate, than have ever yet been attained by any operator or operation; but it imposes the three following conditions. Firstly, the surgeon shall concern himself with the peritoneo fascial layer of the abdominal wall alone. Secondly, he shall be prepared for the recognition of any and every variety of hernial sac, and ready with the appropriate measures for dealing with each. Finally (and this will follow naturally from the former two), he shall fully recognise that in the event of recurrence the explanation is not to be found in the weakness of the patient's muscles, but must be sought a little nearer home.

Melbourne.

[6] Intercolonial Medical Journal of Australasia, November, 1905.

SO-CALLED VIRULENT SYPHILIS AND ITS TREATMENT.

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ALTHOUGH nowadays comparatively few cases of what used to be called malignant syphilis are met with compared with those which came under notice 20 years ago, still they are numerous enough to merit our keenest attention. As to the cause of this decline, it is supposed to be due chiefly to two factors: (*a*) gradual attenuation of the syphilitic virus; and (*b*) the improved methods of treatment. By malignant syphilis is generally meant that form of the disease which is associated with an indurated sore, which, probably becoming phagedænic, is followed by rupial ulceration of the skin, nodes, caries and necrosis of bone, and later by visceral lesions, cachexia, anæmia, and profound debility.

The histories of many epidemics show that the intensity of the virus of syphilis may be so great as to take on the above action irrespectively of the physical condition of the patient, attacking even those of the most robust constitution with the greatest virulence, and in spite of all treatment, but this latter is the exception. My own experience is that in the majority of cases there is present some well-marked cause which influences the progress of the disease. The following conditions, either singly or together, will generally be found to be associated in such cases: (1) poor physique; (2) living under bad hygienic and generally debilitating circumstances; (3) malaria; (4) the presence of any organic disease, especially renal; (5) alcoholism; and (6) delayed and inefficient treatment. As regards the first, it goes without saying that the poorer the constitution the less resistant it will be to the action of the syphilitic virus. Hygienic surroundings will certainly influence the progress of the disease for better or worse; thus the enervating climate of the tropics exercises a markedly baneful effect on it, while some of the worst cases are to be seen in overcrowded and dirty seaport towns. That malaria is a more potent factor in influencing syphilis for the worse than it has hitherto been given credit for is now certain, and, personally speaking, I can say that in some of the very worst cases which I have seen the patients had either been recently exposed to malaria at the time of syphilitic infection or the plasmodium could still be detected in their blood. The presence of any organic disease, especially renal, will, of course, exert a powerful influence on the progress of any given case of syphilis, in being in itself not only a drain on the system but also by its presence either preventing altogether or at least limiting the exhibition of specific treatment. It has long been an accepted fact, and one that is true, that the drunkard has a worse chance of resisting the syphilitic virus than the moderate drinker. The last and probably the most important

of these conditions is delayed or inefficient treatment. For many years it had been an accepted maxim "that the earlier mercury was given in syphilis the more it influenced for better the future progress of the disease." Of late years this has been disputed by some of the greatest authorities, who advise that it be withheld until the appearance of secondary symptoms, the *rationale* of this being, as far as I can make out, chiefly to qualify them to be in a position definitely to assure the patient whether he has or has not syphilis; at the same time these observers state that the withholding of treatment thus does not alter the after course of the disease. Neither to this advice nor to the latter statement can I subscribe for one moment, for I have seen several cases where a primary sore, having been allowed to heal up without specific treatment, although not followed by any of the ordinary looked-for secondary signs, was succeeded in from a year to 18 months by some grave nervous or paralytic affection (the first indication of syphilitic infection) which would probably not have occurred if the mercury had been exhibited with the first symptom. It cannot be denied, and is only too apparent to those who have had much experience with syphilis, that withholding specific treatment, its non-continuance for any length of time, or irregular administration are all factors which determine the disease assuming a semi-malignant character.

In dealing with the cases of virulent syphilis under consideration the main question which arises is, What line of treatment ought to be adopted towards them? Up to a comparatively recent time such cases were looked on as more or less hopeless, so far as any specific line of treatment was concerned, and some of the greatest authorities on syphilis, notably Carmichael of Dublin, whose work on the whole subject of syphilis is classic, taught that the exhibition of mercury in them was not only contra-indicated but actually harmful, and I have not the slightest doubt but that, restricted as were the means then of introducing mercury into the system, this teaching was correct; and I can well recall more than one case in my earlier practice which not only resisted but which went from bad to worse on the exhibition of specific treatment; but it must be remembered that in those days the only really practical way we had of giving mercury was by what is known as the "internal method"—*experientia docet*—and since then we have learnt "that mercury given internally over any lengthened period in any case of syphilis by upsetting the digestive apparatus sooner or later brings about depletion of the system generally"; how much sooner and with what more serious effects will it act when exhibited thus in these cases of malignant syphilis which are under consideration. However, the introduction of the modern ways of giving mercury, notably that by intramuscular injection, places us in a much stronger position to deal with, not only the ordinary cases of syphilis, but also with cases of a virulent type. Given by intramuscular injection mercury will prove itself as beneficial in these latter as it has hitherto done in the former, that is, provided due care be exercised in regard to its dosage and by paying strict attention to wnat I call its essential adjuncts. If these be adhered to mercury can be given with the greatest safety and benefit in all cases of syphilis and I have not the slightest hesitation in saying that, if carried out properly, we would see very few of the deplorable effects of these virulent cases, and would add that in my opinion one of the main causes of the latter is the reprehensible practice which exists among a great many practitioners of giving mercury internally combined with potassium iodide for lengthened periods, irrespective of their syphilitic patient's condition or of his symptoms.

In discussing the treatment of these semi-malignant syphilitic cases it will be necessary to take into consideration certain points in connexion with them, points which may have the most important bearing on the former. First and foremost comes the question as to what was the probable factor in causing the disease to assume its virulence and to continue in the same groove. This may have been due to some organic disease; if so, our attention in the first instance must be riveted on it, and if possible we must endeavour to palliate it before active specific treatment is begun. Again, the condition of the constitution generally must be looked to; should it have been broken down through climatic or other depressing influences it will require to be dealt with accordingly. The patient ought to be removed from any lowering conditions to mind and body, more especially the former, and his thoughts taken off his condition as much as possible. This is of the utmost importance and, although very often hard to attain, it is well to keep ever in mind. As to the physical condition, nine out of ten of these cases will require feeding up with the most nourishing and wholesome diet of which we can think. Some cases are only able to assimilate meagre nourishment, when milk may be given mixed with plasmon, pure beef juice, and concentrated beef jellies. I have been using with the greatest success during the last two years half an ounce of sanatogen three times a day, which among uneducated patients ought to be ordered in the form of medicine; if given as a food it will not be taken. Stimulants are generally called for in these cases, but must be given with care. As soon as the patient can be moved he ought to be brought into and kept as much as possible in the open air. With regard to drugs, irrespective of specifics, tonics of all sorts will be required, both mineral and vegetable, and first among them comes sarsaparilla which ought to be given in large doses in nearly all cases of virulent syphilis. In these cases there is often a tendency to hæmorrhages owing probably to the non-coagulating condition of the blood. To improve this latter nothing is better than chloride of calcium given in from 10 to 30 grain doses thrice daily.

Specific treatment is, of course, the most important question to be considered in connexion with these cases and the points that arise are when to begin it, how long to persist, and when to desist with it; also as to dosage. As regards the first, a great deal will depend on the actual kind of case one has to deal with, also as to whether mercury has been given beforehand in the same case. For instance, the disease may have begun in the ordinary way—i.e., a hard sore followed by one of the milder rashes, &c.—everything may have been supposed to be going on well, when a sudden outbreak of alarming symptoms takes place—rupial ulcers appear on various parts of the body, the throat becomes deeply ulcerated and the soft bones of the skull involved in caries. These are always urgent cases and unless dealt with at once will rapidly go from bad to worse. At the same time their specific treatment calls for the greatest circumspection and a good deal will depend on whether or not they have had mercury already and for how long. Should the above symptoms appear whilst the patient was under the effects of the drug it will be necessary to stop it for a time and trust to general treatment, with mild sweating in hot air. Other cases may require the mercury to be increased and a third class of case which has never yet had any mercury will require it to be rapidly exhibited. Generally speaking, most cases will require mercury and will very often do well by being given it at once in mild courses. As to dosage the majority of cases will do best on small, I may say minute, doses. For this purpose I give a weekly intramuscular injection of half a grain of metallic mercury as a maximum, never exceeding this but very often am satisfied with one-quarter or one-eighth of a grain per week.

For the cases which require to be dealt with rapidly, such as phagadænic syphilitic chancre, intramuscular injections of calomel are best, for although painful it is the most active of all mercurial salts, either soluble or insoluble. Of it I give one grain twice a week until its physiological effects are apparent, when I substitute mercurial cream for it.

How long to persist in specific treatment? My custom is, if all goes well, to give an injection once a week for a month at a time, then desist from all specific treatment for the following month. This system of a month's active treatment alternating with one of rest can be continued for a long time. I am of course speaking generally, as every case must be treated on its merits. During the period of active treatment should symptoms, as they often do, show signs of exacerbation the mercury must be stopped for a time, when the symptoms will probably improve and one can recommence specific treatment again. These exacerbations must be carefully watched for, and their occurrence is no indication for stopping specific treatment altogether, on the contrary, it is more the other way.

Next to specific treatment comes the important point of increasing and maintaining tissue metabolism. In these cases this is an absolute necessity, if one is to look for favourable results, and one cannot lay too much stress on it, for, beneficial as it is in an ordinary case of syphilis, it is far more in cases like those under consideration. It is the recognition of this which has doubtless been at the bottom

of the success which has attended the treatment at Aachen for so many years, for there metabolism is insured by the use of the natural waters of the place, which are both diuretic and slightly aperient; likewise we see the surprising improvement which sometimes follows a course of Zeitmann treatment, which consists, to put it briefly, of sweating, purging, with the administration of mercury for a limited number of days, and although this improvement may be only of a transient nature it shows the value of bringing about and maintaining tissue change.

There are various ways in which tissue change can be brought about, the best being with the aid of radiant heat baths, but these are not always within range. The method which for some years I have adopted, and which is the one in use in the Military Hospital, Rochester-row, is of the simplest kind. The hot air is generated by a small Bunsen stove (gas); this is placed under the chair the patient is seated on. The latter and apparatus are then enveloped, with the exception of the head of the patient, in a flannel waterproof sheet; in this way the temperature can be very readily brought up to between 160° and 200° F. The patient is allowed to remain in this for not more than five minutes and he gets one of these baths at least every second day. As above stated, I cannot speak too highly of the necessity of insuring tissue change in all cases of syphilis, but more especially in these cases of virulent syphilis is it of the greatest importance. Besides the value of tissue metabolism in the treatment of syphilis it must also be remembered that through it we are enabled to continue mercury more regularly and continuously than otherwise.

Iodide of potassium.—At the outset of these virulent cases of syphilis iodide of potassium is of little avail and does more harm than good, but as the case progresses its efficacy is far more marked than in a similar stage of an ordinary case of syphilis. No doubt as with mercury so with potassium iodide: it has to some extent been brought into disrepute through the far too reprehensible practice that exists of giving it as a matter of course, either by itself or in conjunction with mercury, in all cases of syphilis, with little reference to the patient's condition or progress. In these virulent cases iodide of potash must be given with great care and circumspection. It should be given in intermittent courses of increasing doses for not more than ten days at a time; if continued beyond this it appears to lose its beneficial effects and then only acts as a constitutional depressant, which is the last thing to be desired. Given in the way suggested iodide of potassium is most valuable in virulent syphilis, mitigating in a most marvellous way the various bone and skin lesions, to say nothing of the later syphilitic affections.

Iodipin.—This is used as a substitute for potassium iodide. It is a combination of iodine and sesame oil. It is prepared in two strengths—i.e., a 10 per cent., which has been given internally in gelatin capsules, and a 25 per cent., which is the usual preparation used. It is given hypodermically in doses of from 15 to 20 cubic centimetres for ten consecutive days. The syringe used for these injections must be capable of holding at least ten cubic centimetres and the needle should be fairly long (eight centimetres) with a large bore. Iodipin is a viscid fluid which will require to be heated to at least body temperature before being injected. The advantages claimed for iodipin over iodide of potassium are that it is more slowly absorbed and very much more slowly excreted, besides acting without being a depressant or interfering with the digestion. The injections are non-toxic and quite painless. I have had a good deal of experience with this drug and I may that I am very favourably impressed with it, more especially in the cases under consideration.

Iodogelatin.—This is a similar preparation to the above and I saw it extensively used in Milan and Pavia, where it was spoken very highly of. It is certainly clean and more easily used than iodipin.

Local lesions.—For chronic lesions of the mucous membrane nothing is better, taking it generally, than chromic acid and its solutions. A good procedure is to paint the lesion first with a 5 to 10 per cent. solution of chromic acid and immediately afterwards apply either the solid stick or a 30 per cent. solution of nitrate of silver; this forms chromate of silver.

To some of the severe mucous ulcers acid nitrate of mercury is the best application; this to be applied every fifth day. For phagedænic sores I find nothing better than the application of crude chromic acid; this is especially the case in phagedænic sores attacking the glans penis. The tissue of the glans will be rapidly destroyed unless urgent measures are at once taken. The patient ought to be put under an anæsthetic and the crude chromic acid applied; a black slough will result which can be removed by poulticing with charcoal. The chromic application may need to be resorted to more than once and should be continued until all tissue destruction has disappeared. Acid nitrate of mercury and nitric acid fort. are also useful. After separation of the slough iodoform dusted on is best. Some ulcers are best treated by continual bathing in hot boric or sublimate solutions, but all large chronic ulcers are to be treated on general surgical principles—i.e., rest, cleansing, opening up pockets and sinuses, and securing good drainage; for gummata soothing application at first and later some stimulating preparation. Bone lesions are always troublesome and will need constant attention to prevent serious disfigurement; at first soothing applications are best; should ulceration take place scraping with a Volkmann's scoop ought to be resorted to. The early removal of a sequestrum ought always to be attempted.

The following are the notes of some cases of what would be classified as "virulent," but it will be seen that in the majority of them the disease assumed its severity as the result of some other cause rather than of the inherent intensity of the virus of syphilis itself.

CASE 1.—The patient was admited into the Military Hospital, Rochester-row, on Sept. 9th, 1905, as a free patient, having been discharged from the service as "permanently unfit." He had contracted a primary sore at Poona, India, in August, 1904; this was followed in a fortnight's time by a secondary eruption on the face. Soon rupial sores appeared on the legs, the shoulders, and the arms, and a large ulcer attacked the upper lip which it very soon destroyed. The patient had remained in hospital until March, 1905, when he was invalided home to Netley. There, although his general health improved somewhat, still he remained very cachectic and anæmic whilst ulceration proceeded at different points. On arrival at Rochester-row Military Hospital the patient, who was much debilitated, was cachectic and anæmic. His weight was seven stones. His face was a mass of old and fresh ulceration, the upper lip was entirely destroyed, and he was badly scarred all over.

According to the syphilitic case sheet, whilst in India the patient had received two intramuscular injections of one-third of a grain of a solution of perchloride of mercury which caused such pain and swelling that this line of treatment was abandoned and henceforth he was treated mostly by the internal administration of a solution of perchloride of mercury and iodide of potassium. At Netley iodide of potassium was freely given and he went through one course of Zeitmann's treatment (with doubtful result). At Rochester row Military Hospital for the first fortnight all specific treatment was stopped, he was put on the most generous diet he could take, and with this was given one ounce of sanatogen daily. He was given a hot air bath every second day to facilitate tissue change and eliminate any accumulation of mercury which might be present. At the end of the fortnight he received an intramuscular injection of one-third of a grain of metallic mercury once a week and this line of treatment, together with intermittent courses of iodide of potassium, was continued for three months when he was discharged from hospital apparently free from the disease. During his stay at Rochester-row Military Hospital he increased his weight by two stones and his general health improved in a wonderful way. Local applications of acid nitrate of mercury and chromic acid 40 grains to the ounce were made to the ulcers. The probable cause of the severity of this case was poor constitutional physique added to debility at the end of a spell of hot weather in India.

CASE 2.—The patient was admitted to the Military Hospital, Rochester-row, on Sept. 9th, 1905, from the Royal Victoria Hospital, Netley. He had contracted a sore at Poona, India, in November, 1903. The sore was shortly followed by a badly ulcerated throat and the mouth and gums became involved and the two front teeth of the upper jaw fell out. He was invalided home to Netley in March, 1904, when, although the throat continued to give trouble, no fresh symptoms, developed until November, 1904, when an ulcer formed on the upper lip which spread to the nose, the alæ of which it rapidly destroyed and at the same time the palate bone began to necrose. Serpiginous ulcers developed on the face, the legs, and the arms. Under treatment the progress of the disease had been more or less checked. On admission at Rochester-row Military Hospital his condition

was as follows. There was profound cachexia with great debility, the alæ of the nose and the upper lip were entirely destroyed, the palate and the nasal bones were exfoliating, and the ulceration was still present on the face, the scalp, the arms, and the legs.

The treatment in India had consisted almost entirely of the administration of iodide of potassium as it was stated that "any attempt at giving mercury had to be abandoned" owing to the ill-effects which it had. At Netley, besides the internal administration of mercury and iodide of potassium, the patient had gone through four courses of Zeitmann's treatment which latter was said "not to have been very successful," as although the patient improved for the time he rapidly relapsed. At Rochester-row Military Hospital, to begin with, all specific treatment was stopped, he was given a hot-air bath every second day, a generous diet with one ounce of sanatogen daily together with sarsaparilla, malt, and cod-liver oil and later he received a weekly intramuscular injection beginning with one-third of a grain of metallic mercury, and this was eventually increased to one grain per week. A sequestrum from the palate bone was removed and all ulcers were treated locally. The patient made an excellent recovery and after being fitted with a palate and false nose was discharged from hospital on Feb. 27th, 1906. During his stay in hospital he had gained nearly 3 stones in weight.

In this case it is hard to account for the disease becoming so virulent as the patient was of good physique and bore an excellent character. One peculiarity is to be noted—viz., the virulent relapse which took place after the patient had been under treatment at home and doing well for some months.

CASE 3.—The patient was admitted into the Military Hospital, Rochester row, from Netley on Sept. 9th, 1905. He had contracted a primary sore at Hong-Kong in November, 1902. No signs of secondary infection appeared until June, 1903, when he was quartered at Singapore, where rupial ulcers developed on the legs and the body. It may be mentioned that he had suffered much from malarial fever both in Hong-Kong and at Singapore. Whilst he was at the latter station he was continually in and out of hospital, the ulcers healing up and breaking out again and again; he became very debilitated and was invalided home to Netley in June, 1904. Whilst he was there the ulceration continued and extended to the face and the scalp and the tongue became deeply ulcerated; debility and cachexia were well marked. On arrival at Rochester-row Military Hospital ulceration was found to be still present on the body and the face and especially on the tongue which was much thickened. The patient had great difficulty in taking any food on account of the pain; there was much debility. Whilst in hospital at Rochester-row he had frequent attacks of ague, and plasmodium was detected in the blood. His weight was eight stones.

At Singapore mercury and iodide of potassium had been given internally in combination for various periods; at Netley the same drugs had been administered with four courses of Zeitmann's treatment (the latter appears to have done good for a time but the patient relapsed very soon after each course). At Rochester-row Military Hospital full courses of quinine hot-air baths were given and the patient was put on as nourishing diet as he could take with one ounce of sanatogen and chloride of calcium in 20-grain doses thrice daily; afterwards a weekly intramuscular injection of mercurial cream was ordered commencing with half a grain, finally rising to one grain. He was also given intermittent courses of iodide of potassium 60 grains per day. He underwent two courses of ten days of iodipin. The ulcers were treated locally with chromic acid 40 grains to one ounce. The patient made an uninterrupted recovery and was discharged from hospital on Feb. 1st, 1906, apparently well. His weight on discharge was 10 stones 7 pounds.

There is every reason to believe that the presence of malaria was the cause of the disease taking on the virulence it did in this case. Quinine worked wonders in the cure.

CASE 4.—The patient was admitted into the Military Hospital, Rochester row, from Netley on Sept. 9th, 1905. The history of this case is an instructive one. The patient had contracted a sore whilst serving in India in 1892, which was followed later by eruptions on the face and the back. Under treatment these disappeared. He had no further sign for three years, when the little toe of the left foot became swollen and painful; this finally resulted in the metatarsal bone of the toe having to be removed. He was sent home and invalided out of the service in 1896. In the interim, until 1901, he was employed as a railway porter, during which time he remained in good health, having had no return of the disease. In 1901 he re-enlisted and was sent to Malta. In July, 1902, a swelling appeared on the right malar bone, which subsided under specific treatment but reappeared in March, 1903; suppuration set in and necrosis of bone resulted and the malar bone was removed. Then the nasal bone became similarly affected and the bridge of the nose fell in. He was invalided home to Netley at the end of 1903 when ulceration and necrosis of the frontal and palate bones set in and an operation for removal of the sequestrum was performed. He was eventually invalided out of the service and was transferred to Rochester-row Military Hospital for further treatment. The patient's condition on admission at the latter hospital was one of debility and great emaciation, with cachexia and anæmia. His weight was 8 stones. The bridge of the nose and the right molar bone were destroyed. Necrosis was still proceeding in the skull (right parietal) and palate bones. The stench from this patient was overpowering.

Nothing could be learnt as to the treatment adopted so long ago as 1892, but at Malta in 1902 the patient had had mercury internally and by vapour bath and also large doses of iodide of potassium. At Netley specific treatment had been given internally and by inunction, as well as six courses of Zeitmann's treatment. At Rochester-row Military Hospital the treatment consisted, first, of tonics, hot-air baths, good nourishing diet, with sanatogen and sarsaparilla. Afterwards the patient received regularly a weekly injection of metallic mercury, half a grain, rising to one grain; iodide of potassium appearing to aggravate the symptoms he received ten subcutaneous injections of iodipin. The palate bone was removed, the right parietal was scraped, and chromic acid was applied. A good recovery was made and the patient left the hospital on Feb. 10th, 1906, in comparatively good health. He had gained 2 stones 7 pounds in weight whilst at Rochester-row Military Hospital.

The chief point of interest in this case is the fact of the disease having remained practically dormant from 1896 to 1902, when it re-asserted itself on the patient being exposed to the enervating climate of a summer in Malta. The man evidently had never had any prolonged or thorough course of treatment and it goes to prove once more the absolute necessity of this in all cases. This patient's physique was very good.

CASE 5.—The patient was transferred from Netley to the Military Hospital at Rochester-row on Feb. 19th, 1906. He had contracted a primary sore at Rangoon in February, 1904, which was followed by a roseolar rash, and this was succeeded in a month's time by rupia, which latter appeared on the body and the face; at the same time both knee-joints became painful and swollen. After some months the patient became so debilitated and cachectic that he was sent home to Netley, where he arrived on Dec. 31st, 1904. His condition on admission to Rochester-row Military Hospital showed great debility and cachexia. Both the knees were swollen and partially ankylosed, and there were scars of ulcers scattered over the body, whilst rupial ulceration was still proceeding over the face and the nose, the latter lesion resembling lupus. The patient's weight was 8 stones.

The syphilis case-sheet showed that whilst he was at Rangoon the patient had had some injections of perchloride of mercury, which, however, were stopped on account of the pain which they caused, and mercury in combination with iodide of potassium was given internally for some months. At Netley he had had several courses of Zeitmann's treatment. (Transfer certificates stated: "Not much benefited by it.") At Rochester-row Military Hospital, to begin with, all specific treatment was stopped, hot-air baths, tonics, generous diet with sanatogen and sarsaparilla being substituted; later a weekly intramuscular injection of one grain of metallic mercury was given regularly and he received one course of iodipin (subcutaneously), 20 cubic centimetres per day for ten days. In a month's time he had made good progress towards recovery; the ulceration on the face had ceased and he had gained 8 pounds in weight. At the time of writing the patient looks, and apparently is, in robust health and is awaiting his discharge from the hospital. The mercurial injections are still continued.

In this case there was no apparent reason why the disease should have taken on the malignant character which it did.

CASE 6.—The patient was admitted into the Military

Hospital, Rochester-row, from Netley on Feb. 19th, 1906. He had contracted a primary sore at Delhi in March, 1904, which was followed almost at once by rupial ulceration on the body and the legs, pericolitis, cachexia, and general debility. He was in hospital for a year more or less when he was sent home to Netley where he arrived in May, 1905. Then besides other troubles he got orchitis of both testicles (the right being removed).

On admission at Rochester-row Military Hospital the patient's condition was bad; he was much debilitated, cachectic, and emaciated, his weight being 7 stones 7 pounds. He was suffering from ozæna and ulceration of the nasal septum. The remaining testicle was much enlarged and was hard and painful.

In India the patient had had various courses of mercury by inunction and by administration internally in combination with iodide of potassium. At Netley tonics, &c., with iodide of potassium had been given and the patient had gone through four courses of Zeitmann's treatment. At Rochester-row Military Hospital the treatment had consisted primarily of hot-air baths, hypophosphates, and sarsaparilla, with generous diet and sanatogen, and later of weekly intramuscular injections of mercurial cream and a regular course of iodipin. The patient made a good recovery, putting on weight from the first. The ozæna ceased, the ulceration healed, and the remaining testicle became gradually reduced in size and all pain and tenderness went from it. The patient was discharged on May 22nd, 1906, his weight then being 9 stones 7 pounds.

The severity of the disease in this case was probably very much influenced by the patient's wretched physique, added to enervating climatic conditions.

CASE 7.—The patient was admitted to the Military Hospital, Rochester-row, from Netley on Feb. 19th, 1906. He had contracted a phagedænic sore at Barbados in July, 1904, which was soon followed by general rupial ulceration over the body and the limbs. These conditions were soon followed by asthenia with consequent anæmia, emaciation, and general debility. He was sent home to Netley in November, 1904. Then ulceration continued and the nasal and palate bones became involved. On admission at Rochester-row Military Hospital the patient's condition was one of gravity. His weight was 6 stones 7 pounds. He was quite bed-ridden. There were rupial ulcers on the body and the face and caries of nasal and palate bones. The right knee was ankylosed, swollen, and painful. Asthenia, anæmia, and extreme emaciation and debility prevailed and there was deep ulceration of the pharynx.

The treatment in Barbados had consisted of alternating courses of mercury by inunction and internally, the latter combined with iodide of potassium. At Netley, besides tonics, &c., the patient had undergone six courses of Zeitmann's treatment (which appeared to do good for the time being but relapse taking place almost at once). At Rochester-row Military Hospital the patient was first of all treated with hot-air baths, sarsaparilla, malt and cod-liver oil, and generous diet with sanatogen. Later he received a weekly injection of a quarter of a grain of metallic mercury and had one course of iodipin. He made good progress, but the ulceration of the throat threw him back. He is doing well again now, but his is a bad case. He suffered much from epistaxis, for which he was given 20 grains of chloride of calcium three times a day.

This patient's physique was of the poorest possible kind, which made him an easy prey to syphilis, especially when the virus was of a virulent type from the beginning.

CASE 8.—The patient, who was admitted into the Military Hospital, Rochester-row, from Netley on Feb. 19th, 1906, had contracted a sore at Agra in April, 1904, which was followed by a papular eruption on the body and the face a few weeks later. A few rupial sores appeared on the face in six months. The septum of the nose began to ulcerate and the patient got much run down and debilitated. The palate bone then became engaged, as also the nasal bone, and necrosis proceeded rapidly and both bones were soon destroyed. At Netley the necrosis continued, destroying the whole of the palate bones and partly the ethmoid bone. The patient was in a most lamentable condition when admitted to Rochester-row Military Hospital, half his face being destroyed, and the base of the skull being exposed. Ulceration was still proceeding and there was naturally much debility and emaciation.

The patient stated that he had had injections of mercury in India (this is not certain), and much mercury and iodide of potassium internally. At Netley he had had six courses of Zeitmann's treatment with various local applications to the ulcerating surfaces. At Rochester-row Military Hospital the treatment consisted of hot-air baths, tonics, and generous diet, with sanatogen, sarsaparilla, and iodide of potassium, and later of very small weekly injections of mercurial cream. The patient has made simply wonderful improvement and has practically recovered, but his disfigurement presents one of the worst cases I have ever seen. He has gained two stones in weight since admission.

The severity of this case can be traced to debility during the excessively hot weather at Agra throughout the summer in which he contracted the disease.

CASE 9.—The patient, who was admitted to the Military Hospital, Rochester-row, from Netley, on Oct. 27th, 1905, had contracted a hard sore at Maymeyo, Burmah, on April 28th, 1904. Three months later a papular rash appeared on the body and this became rapidly pustular, the patient went from bad to worse, and suffered severely also from malarial fever. He remained in hospital for some months, was then embarked for England, but on reaching Bombay had to be taken into hospital owing to extreme debility. There he remained for about two months, when he was sent home to Netley, where he arrived on Jan. 20th, 1906. At Netley his condition was marked by debility and cachexia and there was rupial ulceration on the back and on the limbs. The left knee was swollen and painful. On admission at Rochester-row Military Hospital he was quite bed-ridden; he was very anæmic and cachectic, there were ulceration of the septum of the nose and pharynx, and rupial ulcers on the buttocks, and the left knee was stiff and painful.

In Burmah the patient had had mercury by inunction and internally combined with iodide of potassium, whilst at Bombay he had received injections of perchloride of mercury, which he stated were stopped on account of the pain which they caused. At Netley iodide of potassium with mercury internally had been administered and the patient had gone through two courses of Zeitmann's treatment. At Rochester-row Military Hospital at first all specific treatment was stopped and tonics, sarsaparilla, and hot-air baths were substituted and good diet with one ounce of sanatogen per day was ordered. Later weekly injections of metallic mercury were given and two courses of iodipin. The patient made a slow but steady recovery. Quinine was also given in continued doses before the mercury.

No doubt in this case malaria was the chief factor in causing the disease to assume its severity.

CASE 10.—The patient was admitted into the Military Hospital, Rochester-row, from Netley for further treatment on Feb. 19th, 1906. The history of the case showed that the patient had contracted a primary sore at Sheybo, Burma, in July, 1904, which had been followed in three weeks' time by a sore throat and a copper-coloured rash on the body and later by rupial ulceration on the trunk, great wasting, and general debility. He was sent home to Netley on Feb. 2nd, 1905, where his chief trouble consisted of painful nodules on the shins and the clavicles. When admitted to Rochester-row Military Hospital he was bed-ridden and cachectic, and in an emaciated condition. His weight was 8 stones. Rupial ulcers were scattered over the body and there were nodules on both shins, which were very painful.

The treatment in Burma had consisted of the internal administration of mercury combined with iodide of potassium, tonics, &c. At Netley, besides other treatment, the patient went through four courses of Zeitmann's treatment (which apparently did some good for a time). At Rochester-row Military Hospital the treatment first of all consisted of hot-air baths, tonics, sarsaparilla, malt, and cod liver oil, with the best diet that he could take and sanatogen. Later mercurial injections, one grain, were administered weekly. The patient had one course of iodipin by subcutaneous injection. He made an excellent recovery whilst in hospital, gained 2 stones in weight, and was discharged apparently fit on April 15th, 1906.

This man was of intemperate habits which might easily have accounted for the severity of his case.

The above ten cases will suffice to illustrate what is nowadays known as "virulent syphilis." It will be noticed that in each of them a factor other than the actual virulence of the poison itself can be distinctly traced and the extreme importance of this as a guide in the treatment of the case is clearly brought out. They further go to show how amenable

even this class of case is to treatment carried out on scientific and systematic lines.

The happy results attained are most encouraging and lend a hope that in the intramuscular method of treating syphilis we are in possession of a most effective weapon for successfully dealing with not only ordinary cases of the disease, but also (when modified as above described) with those of virulent nature.

INTERSTITIAL NEPHRITIS AND CIRRHOSIS OF THE SUPRARENAL CAPSULES IN AN INFANT FIVE WEEKS OLD.[1]

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ALTHOUGH physiological albuminuria is common enough in the newly born, yet albuminuria secondary to obvious renal disease appears to be quite the exception, and it is still held by many that interstitial nephritis in infants is one of the rarest of diseases. It may be, however, that kidney troubles are not so rare in them as we have hitherto supposed to be the case, and that more careful observations would increase our knowledge, and, at the same time, alter our present views. There is no doubt that the infantile kidney may be seriously diseased and yet not show any pathological changes whatever to the naked eye, and would therefore at the necropsy be deemed normal and recorded as such. It follows, therefore, that these organs cannot be pronounced sound on a mere ocular inspection at the post-mortem examination, and that it will be necessary in the future to revise our methods of inspection, and rely more upon the microscope than has hitherto been the custom. The following case is not only an example of an apparently uncommon condition of the kidneys in a newly born infant, and probably of intra-uterine origin, but it illustrates changes in the suprarenal capsules which I have not met with before, and which I cannot recall as having read of in the literature.

The patient, an infant, aged five weeks, was "healthy and well nourished" at birth. At about the tenth day he "began to pine." He was breast-fed and was an eight months' child. A brother of the patient had died from "eczema." The patient was admitted into the North-Eastern Hospital for Children on Jan. 18th, 1906, suffering from "diarrhœa and vomiting." The stools were green and contained curds and in one there was a small amount of blood. Previously to admission there was a history of passing blood by the bowel and also of blood issuing from the penis.

On examination the face was found to be puffy and the patient's back was very œdematous and pitted on pressure. The hands and feet pitted also, the latter especially, and the upper extremities were œdematous as far as the shoulders, and the lower extremities as far as the trunk. The abdomen was very distended with wind, there was some free fluid there, and the skin was pale. Examination of the heart revealed a systolic bruit which was heard best at the left base; it was not especially loud there, but it was conducted all over the front of the chest, though inaudible over the back when the child was crying. The pulse could not be felt at the wrist. The lungs were normal. The urine was albuminous. The testicles were neither large nor hard. The patient vomited seven times on the date of admission into the hospital, and once or twice daily on the preceding days. The bowels were opened once or twice daily. He died on the 23rd and a necropsy was made on the same date. A state of mixed broncho-pneumonia and collapse was found down the back of the right lung. In spite of the abdominal distension the apex of the heart was in the fifth interspace. On opening the abdomen a quantity of clear fluid amounting to four and a half ounces flowed away. The peritoneum was shiny and there was nothing to indicate acute peritonitis, but in parts there were appearances that suggested chronic peritonitis. In places there appeared to be some alteration over the coils of the small intestine where the peritoneum seemed thickened; there was a network of vessels surrounding the coils, but the network was coarse, not fine, such as is seen in acute inflammatory conditions, while the peritoneum over the intestines had not the bulky opacity seen in chronic peritonitis. The mesentery in the neighbourhood of the congested area was pigmented. Many of the glands in the vicinity were also pigmented. There were many adhesions between the liver and the abdominal wall. Anæmic patches were seen upon the liver but the organ appeared normal to the naked eye. The spleen was enlarged to twice its normal size. The kidneys were normal to the naked eye, but microscopically the structural alterations were as follows: the capsule was thickened, interstitial changes showing chronic inflammation were readily seen, the glomeruli were atrophied, and the epithelium of the tubes was shed and necrotic, the changes being most marked in the cortex and here some thickening of the small arteries was detected. The suprarenal capsules were both adherent to the kidneys, and they were enlarged, and of an opaque, yellowish-white colour. Sections of the right kidney showed what appeared to be an old hæmorrhage. Microscopically chronic inflammatory changes were found. The liver presented some peculiarities microscopically. There were large numbers of lymphocytes and other leucocytes in the veins, not in the arteries, and also in the capillaries. The pancreas was normal. The brain was not examined.

There were neither history nor stigmata of syphilis in the infant, but the lesions discovered post mortem were doubtless of a syphilitic nature and most probably of extra-uterine origin. Cases of renal disease in infants have been reported to the Society for the Study of Disease in Children by Dr. Henry Ashby,[2] by myself,[3] and by Dr. G. A. Sutherland and Mr. J. W. Thomson Walker,[4] in this case of a girl, 16 months old. Dr. Ashby's patient was four weeks old; the child, like my patient, was anasarcous. On section the cut surface of the kidney was found to be pale and fatty-looking, and there was very little difference between the cortex and the medulla. The microscopical examination showed "choked" kidneys, with extensive epithelial and fibroid changes, and the small arteries appeared to be thickened. There was no evidence of syphilis, but it appeared to me at the time that the specimen was shown that it might, notwithstanding the lack of positive evidence, be of syphilitic origin. The case which I reported was that of a dropsical and syphilitic infant five months old. The urine was albuminous and contained hyaline, epithelial, and granular casts. Coarse alterations were not obvious in the kidneys. Microscopically there were catarrhal changes, glomerular over-nucleation, and thickening of the small arteries in the neighbourhood of the glomeruli. I also, when recording this case, narrated the case of another syphilitic and dropsical infant, aged five weeks, whom I had seen some years before. I published an account of this case in my book on "Syphilis in Children." The patient had glomerulitis and interstitial and catarrhal nephritis, with hyaline and epithelial and a few blood casts. The kidneys in this patient also *appeared to be healthy* macroscopically, and this fact was then commented upon. The case reported by Dr. Sutherland and Mr. Thomson Walker was that of a syphilitic child, 16 months old. On one occasion the urine was drawn off by catheter and contained a small amount of albumin, but attention was not called by the symptoms to the kidneys, which post mortem showed marked interstitial changes widely separating the tubules. Many tubules were filled with casts of homogeneous material or masses of round cells. The majority of the glomeruli displayed no change; some showed a slight increase in their nuclei. They also on that occasion narrated another case of a syphilitic girl, aged eight months, whose kidneys showed similar interstitial changes to the above, but the glomeruli and tubules were normal. In the discussion that followed I gave also the history of a syphilitic infant, aged six months, who had albuminuria and anasarca of six weeks' duration. The patient was lost sight of, but probably died.

Although cases of infantile renal disease have been previously brought to the notice of the Society for the Study of

[1] A paper read before the Society for the Study of Disease in Children on May 4th, 1906.

[2] A case of Nephritis in a Newly Born Infant, Reports of the Society for the Study of Disease in Children, vol. i., pp. 128–132.

[3] A case of Syphilitic Nephritis in an Infant, aged five months, Reports of the Society for the Study of Disease in Children, vol. iii., pp. 286–295.

[4] A case of Syphilitic Endarteritis and Nephritis in an Infant Reports of the Society for the Study of Disease in Children, vol. iii., pp. 134–146.

Disease in Children, this is the first instance of cirrhosis of the suprarenal capsules that has been recorded. The importance of not passing the kidneys as healthy on the evidence of a macroscopical examination alone is once more exemplified.

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THE DIAGNOSIS AND LOCALISATION OF TUMOURS OF THE FRONTAL REGIONS OF THE BRAIN.[1]

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THE clinical picture of frontal tumour is characterised by the absence of signs pointing to involvement of other regions of the brain rather than by the presence of special focal symptoms. In many cases in which the cardinal symptoms of intracranial growth, headache, vomiting, and optic neuritis, are alone present the diagnosis can be arrived at only by a process of exclusion, and then the question as to whether the lesion is right- or left-sided has still to be answered. There are, however, many points which help in deciding this question, and although their individual importance may appear slight yet when they are considered collectively they combine to form a distinct and definite clinical entity.[2]

Before discussing the symptoms and signs of frontal tumours with reference to their localising value it is well to define what is meant by the term "frontal region" and to review shortly our knowledge of the functions of this portion of the brain.

Under the term "frontal region" only that part of the brain is included which lies anterior to the ascending frontal convolutions. The results of experimental research (1, 5, 6, 8, 9) and clinical and pathological investigation have divided this area on physiological grounds into two distinct parts. Electrical stimulation of the anterior two-thirds, which is known as the prefrontal region, has yielded negative results as far as motor signs are concerned, but its destruction has brought about ill-defined mental changes. In the posterior third, or post-frontal region, stimulation experiments have demonstrated the presence of centres for the turning of the head and eyes to the opposite side and also for some other ocular movements (17), and destruction of this region has produced paralysis of these movements and deviation of the head and eyes to the side of the lesion. These higher oculo-motor centres are situated in the hinder parts of the first and second frontal convolutions. Further, in the posterior end of the third frontal convolution of the left side lies the specialised motor centre for speech in the area included between the anterior and ascending limbs of the fissure of Sylvius, known as Broca's convolution. The other motor centres are placed behind the frontal region in the ascending frontal gyrus and are arranged from above downwards in the following order: leg, trunk, arm, hand, face, and mouth; the centres for the face and mouth being opposite the posterior end of the third frontal convolution.

Notice must be taken of A. W. Campbell's (4) subdivision of the frontal lobes on the basis of their histological architecture. Campbell calls the motor area the precentral area, and the rest of the ascending frontal gyrus and the hinder ends of the three frontal convolutions is his "intermediate precentral area," which thus corresponds to what I have named the post-frontal region. The rest of the frontal lobe, which is here termed the prefrontal area, is divided by Campbell into a larger posterior portion or frontal area and a smaller anterior part, which is all he includes under the term "prefrontal." Bolton (2), in his important paper on the frontal lobes, comes to the conclusion that the region which is here connoted by the term prefrontal, and which corresponds to Flechsig's anterior association centre, is the portion of the brain which is concerned with the performance of the highest coördinating and associational processes of the mind, that it is undeveloped in all grades of primary mental deficiency, and that its atrophy is the anatomical basis of dementia.

The general symptoms of intracranial neoplasm—headache, vomiting, and optic neuritis—are usually present in cases of frontal tumour, but their development may be gradual when the illness, as is often the case, is of long duration. The headache and the optic neuritis are important in view of localisation. The headache is as a rule frontal in situation but not infrequently occipital. If it is severe and constant in the frontal region it is often referred to the side of the tumour, especially when the growth is situated on or near the surface of the brain and it is then often accompanied by tenderness on cranial pressure. Optic neuritis frequently develops late in the course of the illness and it is thus possible in many cases to study its onset and its course. R. Marcus Gunn (7) from a study of the statistics of optic neuritis in cerebral tumour compiled by J. M. Martin has called attention to the fact that unilateral neuritis or excess of neuritis on the one side occurs most frequently in cases of frontal tumour and that in the great majority of such cases it is more intense on the side of the lesion. Ed. Müller (14) in an analysis of 168 cases of frontal tumour found that optic neuritis occurred in 80 per cent. and that in four of the five cases in which it was unilateral it was on the side of the tumour. Williamson (19) has also referred to the same point. In my own experience the optic neuritis almost invariably appears first in the eye on the side of the growth and is more intense in it than in the opposite eye. This is so constant a feature that in cases in which the neuritis is just commencing it is of real value in localising the disease. In those cases in which the neuritis has been present for a long time the advent of secondary changes greatly diminishes its localising value.

The mental symptoms which occur associated with frontal tumours must be next considered. So much stress has been laid on the occurrence of psychical changes in these cases that it is necessary to examine them closely. In doing so it is essential to determine how far such mental symptoms are directly due to the position of the tumour, and to exclude the effect of concurrent or coincident factors. In this connexion we must bear in mind: (1) the indirect effect of intracranial neoplasms on the mental functions; and (2) that psychopathic changes may develop coincidently, although independently of the growth; thus we must exclude those cases in which there has been any previous psychical change and cases complicated by syphilitic infection or alcoholic abuse. Bruns (3) and Müller (13) have stated that the occurrence of mental symptoms with frontal tumour has been greatly exaggerated owing to insufficient care having been taken in the exclusion of such complications. There remains, however, a large number of cases in which such complications can be excluded and in which the mental symptoms have definitely preceded the onset of the more general and localising symptoms. It is of the greatest importance to find out from those who have previously known the patient intimately, when any change in character or mental state was noticed, for it is obviously impossible to estimate any deterioration of the mental condition or any change in character without some previous knowledge of the life and character of the patient. The onset of the mental change is as a rule gradual and it usually precedes the development of the general symptoms of intracranial tumour. The most prominent and constant changes are inattention and inability to keep the mind fixed on the subject at issue, associated with a tendency to irrelevance and incoherence in conversation. Attention cannot be sustained and seems to lapse, although it may be again easily fixed by an effort on the part of the patient. Lloyd (12) has called attention to cases of frontal tumour in which there was inhibition of thought with an increase in the reaction time of cerebration. In two of my cases this was noticeable, the patients exhibiting a peculiar slowness in answering even the most simple questions, although the answers when given were correct and intelligent.

A loss of memory, more especially for recent events, is often a prominent feature; but perhaps most characteristic of the site of growth are those slight and indefinite mental

[1] The figures in parentheses occurring throughout the article have reference to the bibliography at the end.

[2] The clinical factors which are set forth in this paper are based upon the study of 22 cases of tumour of the frontal region which I have had the opportunity of observing in the National Hospital for the Paralysed and Epileptic during the past four years. In all these cases the diagnosis was confirmed either by necropsy or operation. I have to express my thanks to the medical staff of the hospital for their courtesy in permitting me to make use of their cases.

changes and alterations of temperament which are difficult to analyse or describe. The patient is casual and irresponsible in word and deed, and may attempt jokes and make remarks which are quite irrelevant and often rude; this is apparently due to a faulty or too free association of ideas which is not held in check by a rational judgment and a normal power of concentration on the subject; this peculiar state has been observed by Jastrowitz (10), Bruns (3), Oppenheim (15), and has been referred to by Williamson (19) as very characteristic. The association of lassitude and drowsiness with frontal tumour has been emphasised and also the loss of cleanly instincts, patients frequently passing their urine and fæces in bed without showing any concern or contrition; but these features, though often met with in cases of frontal tumour, are as commonly present in cases of temporo-sphenoidal and basal growths and therefore cannot be regarded as characteristic either of the site of the tumour or of the mental condition. In cases of long duration the psychical state may deteriorate to dementia or the patient may develop delusions and mania and in all cases any great increase in the intracranial tension gives rise to a stuporose or comatose condition. My personal experience is not sufficient to determine whether mental changes are more pronounced in lesions of the right or left frontal regions, but certainly, as far as tumours are concerned, my series of cases does not support Phelps's (16) opinion that the occurrence of mental symptoms is associated only with left-sided lesions, as in five cases of tumour of the right frontal lobe which were uncomplicated by syphilis or alcohol the mental affection was extremely characteristic. In cases in which both frontal lobes are affected the psychical symptoms are more pronounced. It is evident from a review of my cases that the recovery of mental power after operation is greatest in those cases in which the growth is extra cerebral and the frontal lobes only involved secondarily, as in cases of fibroma or endothelioma, while in cases in which the growth involves the brain substance directly as glioma the recovery is never so rapid or so complete.

A second very characteristic feature of frontal tumours is the occurrence of various forms of fits and seizures. Epileptiform seizures may be associated with tumours in any part of the cerebrum but they seem to be especially frequent in frontal tumours. Such attacks were noted in 19 of the 22 cases of this series, and Müller (14) states that out of 163 cases of frontal tumour which he collected more than one-third of the cases had epileptiform seizures either general or focal in character, and they are often the first signs of commencing trouble. These attacks may be classified into four chief varieties: (*a*) subjective sensations often described as "giddy feelings"; (*b*) petit-mal attacks; (*c*) generalised epileptic seizures; and (*d*) fits commencing with a localised convulsion. The feelings of faintness or giddy attacks are not accompanied by loss of consciousness. There are simply a sudden feeling of weakness and a tendency to fall. The patients' description is often that they felt faint or giddy, that they had a swimming in the head. These attacks are not associated with auditory phenomena, an important point in distinguishing them from the giddiness associated with aural vertigo and tumours of the eighth nerve. The second class is distinguished from the first by a transitory loss of consciousness. They are identical with the petit-mal attacks of idiopathic minor epilepsy. The third class consists of generalised convulsive seizures, commencing with loss of consciousness and tonic spasm, and passing into clonic spasm, similar to major idiopathic epilepsy. The fourth variety of seizure includes all the attacks with focal origin. These may be slight and limited without loss of consciousness, or the fit may spread and the attack become unilateral or general in distribution. These fits are of special interest; the presence of motor centres in the post-frontal region and the contiguity of the motor area to the frontal region account for their frequency and character. They may be divided into two chief types: (*a*) those which commence with a discharge from the centres in the post-frontal region and (*b*) those which originate from excitation of the motor centres of the precentral gyrus.

In the first type the fit commences with turning or jerking of the head and eyes to the opposite side and these may be the only movements which occur, consciousness being preserved. In such slight attacks the patients may complain of a feeling of rotation towards the side of the lesion presumably due to the apparent displacement of the environment consequent on the rapid involuntary movement of the eyes. Such a fit may spread to the face and mouth, arm, leg, and trunk, or it may become more severe and generalised with loss of consciousness. It is of importance to note that these attacks are never ushered in by sensory aurae. In addition to the character of the fits, which are frequently unobserved or incompletely described, the phenomena of the post-convulsive stage may be of great importance in the localisation of the disease. After severe seizures the head and eyes are in paralytic deviation to the side of the lesion and there may be temporary hemiparesis of the contralateral side, but the recovery of motor power is rapid. It returns last to those muscles required for the movement of the head and eyes to the opposite side. This is well shown by the weakness of the homolateral sterno-mastoid muscle. Such fits point to the primary irritation and secondary exhaustion of the centres in the post-frontal region. Temporary hemianæsthesia of the contralateral side may be present after a severe fit but there is never hemianopia. The loss of sensation passes off quickly, sometimes in the manner of cortical anæsthesia—viz., sensibility returns first to the body and the proximal portions of the limbs, the distal parts of the extremities being the last to recover; but in other cases the return of sensation is more irregular.

The second type of focal fit occurs when the growth is situated in the left frontal region and the patient is right-handed. It is characterised by a sudden loss of speech, followed by twitching of the mouth and face on the opposite side (right) and often accompanied by the involuntary emission of indefinite articulated sounds. Consciousness may remain unimpaired and the patient can signal for help, although unable to speak. The discharge may spread to the neighbouring centres and a Jacksonian fit of the ordinary march supervene. I have had the opportunity of observing several such attacks; in some of them there was no movement of the head and eyes to the opposite side, but as a rule this movement occurs almost simultaneously with the facial spasm. If the fit be severe the power of speech returns slowly but completely. The aphasia, so far as my observation goes, is purely motor in character, the patient being able to understand what is said to him. The association of such attacks with mental symptoms has more than once led to the supposition that the patient was suffering from general paralysis of the insane, but in contrast to that disease the patient recovers with much greater rapidity from the seizures and their after-effects are less severe.

The occurrence of fits with focal beginning reveals plainly the side of the tumour, and the absence of any sensory aura makes any question as to the post-Rolandic situation of the growth untenable. Contrasted with the fits which result from disease of the motor centres or from lesions situated behind them, the seizures associated with frontal tumours are characterised by the constant absence of sensory aurae, although the patient may complain of a sensation of inability to execute a movement or to perform an act. For instance, a patient in an aphasic attack has a feeling of inability to speak or to move his tongue. In tumours situated behind the motor area, on the other hand, the aura is either a positive sensation of movement of a muscle or muscles where no movement is actually taking place, or, as is more common, there may be a feeling of numbness or tingling.

Cranial nerve symptoms.—Symptoms which can be referred to affection of the cranial nerves are absent in a great number of cases of frontal tumour. When present they are due to the implication of the nerves by the growth or the pressure it exerts upon them. They occur therefore on the same side as the tumour and indicate that the growth is situated on or extends towards the base of the skull. Here a reservation must be made owing to the occurrence of cranial nerve palsies from indirect pressure due to the increased intracranial tension which results from cerebral neoplasm. The function which suffers most frequently from this cause is that of the sixth nerve which leads to convergent strabismus. The other ocular movements which may occasionally be affected by the direct involvement of a basal frontal tumour rarely suffer from these indirect effects.

Olfactory symptoms are very important from the view of localisation and when other causes, such as nasal disease, can be excluded, loss of smell, especially when unilateral, is of great significance. On the other hand, olfactory or gustatory aurae never usher in fits due to discharges from the frontal lobes. As Hughlings Jackson has pointed out, such sensations of smell or taste frequently occur in cases of

tumour of the temporo-sphenoidal region in the neighbourhood of the uncus, and in lesions of this region there is frequently loss of smell, but, in contrast to that associated with frontal tumours, it is incomplete and bilateral.

The motor system.—Paresis occurs only when the tumour impinges on the motor cortex or its efferent fibres and then contralateral hemiparesis of varying degrees may result. The most definite weakness is in many cases of the opposite side of the face which seems to be represented further anteriorly than are the limbs, and as in all cortical lesions the paresis is greater in volitional than in expressional movement. Apart from such signs which are not strictly of frontal origin, there is one to which particular attention must be drawn as it has not been previously described. It is the occurrence of tremor in the limbs of the side homolateral to the tumour. This tremor may be observed in both the upper and lower extremities but is more constant and better marked in the arm than in the leg. In character the tremor is fine, rapid, and vibratory, and it may often be more easily felt than seen. It is absent during muscular rest and can be best demonstrated by making the patient extend both arms horizontally in front of him with the palms directed downwards and the fingers extended. It will then be noticed that the homolateral arm and hand are in a state of constant fine vibratory tremor in contrast to the contralateral arm in which such tremor is absent. The difference between the state of the two hands can be better realised by placing a palm lightly upon the back of each of the patient's hands. This tremor may not be constantly present in any one case, but in all cases of my personal observation when the patient's condition has enabled it to be looked for it has been observed at one time or another. It occurs in cases in which there is no evidence of interference with the motor system, such as contralateral paresis, as well as in cases where such paresis exists. In a few cases such tremor was observed in both hands but it was more regular and constant and of the typical vibratory nature in that homolateral to the lesion. In two cases in which it was bilateral, necropsies later showed that both frontal lobes were involved. It is of interest that in one of these cases in which no other localising signs were present the occasionally more definite tremor on the one or the other side prevented a definite localisation of the side of the lesion being arrived at. I have never met with similar tremor in association with tumours situated in other regions of the brain.

Sensory system.—Affection of sensation never results directly from a frontal lesion and only occurs after severe fits when the discharge has presumably passed across the motor centres to the post-Rolandic gyrus.

Reflexes.—The condition of the reflexes is of great importance. Deep reflexes.—Tumours limited to the pre-frontal region do not as a rule cause any change in the deep reflexes, but when the growth extends further posteriorly and impinges on the motor area the contra-lateral deep reflexes are increased. Bilateral loss of the deep reflexes was observed in some cases but this condition has been described in connexion with cerebral tumours in all situations. The immediate cause of the disappearance of these reflexes is doubtful but it may probably be explained by the degeneration of the posterior spinal root fibres as a result of the increased pressure of the cerebro-spinal fluid. Superficial reflexes.—The state of the superficial abdominal reflexes is of the greatest importance as these may be definitely affected in cases in which hemiparesis or other focal signs are absent. The first demonstrable sign is absence or diminution of the epigastric or abdominal reflexes on the side contralateral to the tumour, or it may be found that on repeated stimulation the contralateral reflexes are more easily exhausted than the homolateral. This alteration of the superficial abdominal and epigastric reflexes is not a specific sign of frontal lesions but merely the result of an affection, however slight, of the pyramidal system. Its value lies in the fact that it is the earliest demonstrable sign of a commencing hemiparesis. In all of my series of cases this diminution or loss of the superficial abdominal or epigastric reflexes on the contralateral side was observed; in three cases the reflexes were also affected on the same side as the tumour, but in these cases there was evidence of a great increase of the intracranial pressure sufficient to affect both cerebral hemispheres. The best method to elicit these reflexes is to stroke the skin with the blunt end of a pin or pen-holder, and it is absolutely essential to do this lightly, as a false reflex, analogous to the tendon reflexes, can be obtained if the oblique abdominal muscles are suddenly stretched by a too forcible stroke. This spurious abdominal reflex produced by a similar reflex mechanism as the knee-jerk is very readily obtained in many spastic conditions in which the true superficial reflex is lost. It is easily demonstrated by indirect percussion of any part of the abdominal muscles in such a way that the tone of the muscle can react to a sudden elongation of the fibres. Apart from nervous disorders I have only seen loss of the abdominal reflex on one side in two cases of appendicitis, a condition which should not be mistaken for cerebral tumour. The diminution or loss of these reflexes which occurs in acute abdominal conditions, such as appendicitis and enteric fever, is, as a rule, bilateral and has been fully described in a paper on this subject by Rolleston. As age advances it becomes more difficult to obtain these reflexes, owing to such causes as obesity and slackening of the abdominal walls. We may conclude that the loss of the superficial abdominal reflexes on one side in any uncomplicated case of cerebral tumour is direct evidence of the tumour being situated in the opposite cerebral hemisphere.

Still more important as positive evidence of affection of the pyramidal system is the presence of an extensor response of the great toe on stimulation of the sole of the foot—Babinski's sign. It indicates, when spinal disease can be excluded, a lesion in the opposite side of the brain or brain-stem. In cases of frontal tumour the contralateral plantar reflex when not extensor may be of an indefinite type as compared with that of the homolateral side; when this is associated with loss or diminution of the corresponding abdominal reflexes its significance is that of a typical extensor response.

It is unnecessary to dwell on the local external signs, though they may be of value, such as localised tenderness on pressure over the skull, protrusion of the eye, or bulging of the cranium.

To summarise, in diagnosing a tumour of the frontal region we have to rely on (*a*) the presence of the general symptoms of intracranial growth; (*b*) the presence of mental symptoms; and (*c*) the absence of focal signs pertaining to other regions of the brain. For localisation we must study the nature of any fits which may occur and be guided by the following signs. 1. Those homolateral to the tumour: (*a*) the earlier development and greater intensity of the optic neuritis; (*b*) the presence of a fine vibratory tremor in the extended limbs; (*c*) the presence of focal cranial nerve symptoms; and (*d*) the presence of local external signs. 2. Those contralateral to the tumour: (*a*) diminution or loss of the superficial abdominal or epigastric reflexes; (*b*) the presence of an extensor or indefinite plantar response with increase of the deep reflexes; and (*c*) hemiparesis. Though one or more of these signs may be absent it will be found that the majority of cases of tumour of the frontal lobe can be accurately diagnosed and localised, and this is the more important as there is in no other region of the brain, with perhaps the exception of the cerebellum, in which surgical interference can be advised with a greater prospect of success and with so little danger to the subsequent physical and mental condition of the patient.

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VAGRANCY IN GLOUCESTERSHIRE.—For many years past very carefully compiled statistics relating to vagrancy in the county have been presented to the Gloucestershire standing joint committee. During the six months of the present year ending Sept. 29th, 41,443 vagrants were admitted into the tramp wards attached to the various workhouses in the county, compared with 47,111 last year, a very considerable decrease. About one-third were supplied with a meal of bread at a cost of £46, or a little less than 1*d.* per person.

INFANTILE MORTALITY AND GOATS' MILK.

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HITHERTO the milk supplied to infants who have been unable to obtain their natural supply—that from their mother's breast—has been obtained almost entirely from the cow. To show that the cow is not so well suited for this purpose as the goat is the object of this paper. The objections to the cow's milk as compared with the goat's are so manifold as to merit the immediate attention of all local authorities. This subject has occupied my attention for some months, and it is my desire now to place the information which I have obtained from various quarters before the medical profession for their consideration.

That there is no absolute substitute for mother's milk no one will deny. That it is a vital fluid containing living protoplasm directly conveyed without possible contamination by air, dust, or germs from mother to child, and that no artificial substitute such as cow's milk more or less contaminated can possibly take its place, should also be generally accepted. The mother's milk is, like the mother's blood, aseptic, and at the body temperature given direct to the child. To use such milk, therefore, after it has remained outwith the body for many hours, when it has become not only altered but dead, so to speak, and grossly contaminated, must produce harmful effect upon the child.

Nature's methods are acknowledged by all to be the best, and on the nearness to which one approaches nature in seeking for a remedy will success or failure depend. The cow is by nature, judged from a medical, and still more so from a bacteriological, standpoint, a very filthy animal. Its fæces are of semi-solid consistence, and in consequence its hind quarters, including the udder, are always more or less smeared with dung. Any attempt (however attentive a farmer may be) to keep these parts clean is foredoomed to failure. The floors of the byre are for the same reason never clean, the fæces in falling being splashed in all directions. I agree, arguing from the public health point of view, that there is no reason why the animal and its surroundings should not be kept scrupulously clean, but such highly desirable conditions would handicap the farmer in the extreme and are not to be expected. Even were one to conduct the whole business of a dairy farmer on calf lymph laboratory lines, each step being rigidly aseptic (apart altogether from the cost), with the object of supplying as far as possible an aseptic fluid, the long interval which elapses during transit before consumption would result in a fluid far removed from what was originally desired. The teats for the same reason are always contaminated in part of their length and to insure a pure supply the first portion of the milk drawn should be discarded. Although a few cows are occasionally kept in town byres, thus bringing their milk more closely to the seat of consumption (the town infant), the majority are housed in the country. It is also a well-established fact that cows do not improve in health in confined spaces such as exist in towns, as they are very susceptible to disease, and that the practice of keeping cows in town byres is not to be recommended.

A large percentage of milch cows also suffer from general tuberculosis, and even a larger proportion suffer from tuberculosis of the udder. I have seen an udder riddled in its whole extent with tuberculosis, and yet the milk of the animal to which this udder belonged for many months was supplied to the city. That cows with udders in the early stages of tuberculosis still unrecognised—and without the assistance of the bacteriologist this condition is extremely difficult of recognition—are furnishing many millions of tubercle bacilli in their milk for consumption daily in many of our large towns no one who has any knowledge of the matter will deny. The extent to which human infection may result thereby has not yet been definitely settled, but some recent work in this direction carried out by Professor von Dungern and Dr. Smidt[1] is worthy of mention. The conclusions at which they arrived in experimenting on the relationship between human and bovine tubercle bacilli in anthropoid apes were that the gibbon is equally susceptible to infection with both types of bacilli, and owing to the near relationship of this animal to man it seems probable that a similar susceptibility to both varieties of the tubercle bacillus may be attributed to man. There was, however, in their feeding experiments a difference in the anatomical distribution of the lesions to which they call attention. In both animals infected with bovine bacilli the small intestine showed tuberculous ulcers and the mesenteric glands were greatly enlarged and caseous, whereas in the two gibbons infected with human bacilli by feeding no tuberculous lesions could be found either in the intestine or in the mesenteric glands. In the latter animals the primary lesions were in the lungs, in the former the oldest lesions were obviously those present in the intestines and mesenteric glands.

The inference which I draw from this work is that bacilli of bovine origin seem to select the intestine and to set up generalised tuberculosis and would explain the great prevalence of this disease amongst children fed on tuberculous milk, and bacilli of human origin seem to select the lungs and to set up phthisis pulmonalis, supporting the view that this disease is solely of human origin. In other words, the cow is responsible for the prevalence of general tuberculosis of children, and phthisis pulmonalis is derived from a pre-existing case of the same disease in man. The number of their experiments, however, is not large enough, they state, to justify any confident expression of opinion on the subject.

In recent years the municipal milk depôt has occupied a prominent place in the prevention of infantile mortality, and although in Britain it is still in its infancy it has been in operation in France and elsewhere for many years. The function of the depôt is to supply sterilised milk, and although it is the desire to obtain that milk in the first instance as pure as possible, such is far from being the case. The gross amount of contamination of this milk, as of all other milk supplied to towns, is indicated by the fact that its bacterial flora is frequently much in excess of that of crude sewage or the washings of flock bed. The subject of flock beds has occasioned considerable excitement recently on account of the large amount of filth which they contain. Desirable as improved measures in this direction may be, they fall into insignificance compared with the greater dangers attending the actual consumption of similar filth and in greater amount as is usually contained in milk. To permit milk to become grossly contaminated in the first instance and then to purify it by sterilisation not only falls far short of an approach to nature's own methods but alters its condition from that of a vital to a dead and less inferior nutritive article.

I have mentioned the chief objections to the cow as a source of milk supply and I purpose now contrasting those with the goat, feeling convinced that this animal will more closely meet the requirements. The goat is naturally a very cleanly animal. Its fæces are practically solid and rolled in balls so as to prevent any possibility of adhering to its hind quarters, and on this account those parts, as also the udder, are always fresh and clean. They dislike filthy surroundings and will not lie down amongst their excreta nor eat soiled fodder. This is an acknowledged fact by all who know anything of the habits of this animal. The cleanly habits of the goat thus remove the possibility of the more gross contamination of its milk at the source of supply. Goats being small animals compared with the cow and possessing a hardy constitution, and being practically immune from tuberculosis, can be kept in pens within the city without detriment to their health, although it might be advisable to let them loose in the open once a year when they can live on any uncultivated land and clean it for cultivation in a very short time. Indeed, they are employed for this purpose in the United States of America. It is to be remembered, however, that they do not furnish so much milk when thus fed as when ordinary fodder forms their staple food. A large number could thus be penned in each ward of the city to which a milk depôt might be attached and their milk drawn as required. Sterilisation would not be necessary, and the infant would be brought as close to the goat as possible and a natural and vital fluid supplied.

The goat is practically immune to tuberculosis and with but few exceptions the only instances in which this animal has been found to be suffering from this disease are when they have been closely housed with tuberculous cows and have obtained their infection therefrom. Professor Nocard states that out of over 130,000 goats and kids that have been brought to Paris for slaughter at the shambles of La Villette

[1] Arbeiten aus dem Kaiserlichen Gesundheitsamte, Band xxiii., Heft 2, 1906.

every year the meat inspectors have failed to discover a single case of tuberculosis. This appears to me sufficient reason in itself for advocating the goat as a source of milk-supply as compared with the cow without recording others. It is surprising also that there should be any hesitation in admitting the superiority of goats' milk over cows' milk as a food for infants. The casein of goats' milk forms a flocculent and much more digestible curd than that of the cow—a very important matter in the rearing of infants. The hard curd of cows' milk is responsible for a good deal of indigestion and diarrhœa of infants. I feel safe in stating that less evil results in this direction would occur by the consumption of goats' milk than with cows' milk. The nourishment obtained from goats' milk is also superior to that of cows' milk and is more suitable for infants.

The difficulty so far as Great Britain is concerned at present is that of obtaining goats' milk when required. But this is easily obviated by importation. Milch goats are a familiar feature of the livestock industry of Europe; they are especially prominent in Switzerland, Italy, Germany, France, Spain, Malta, Egypt, Russia, and Norway. They are by their habits of life peculiarly adapted to the needs and surroundings of the peasantry or poorer classes of these countries. There is indeed nothing truer or apter than the homely saying that "the goat is the poor man's cow." This is so because milk, which is food and drink to all mankind, is furnished by the goat in its cheapest form, because its quality is superior to cow's milk for all purposes, and also because the proportionate yield is much greater than that of a cow. It is frequently said that the food required for one milch cow is sufficient for eight milch goats. It is to be remembered that the weeds, twigs, and waste vegetables will with the addition of only a small amount of hay and grain keep a goat or two. Cows must have a regular meal of a particular menu. It is more than probable that miners in coal districts would find in the goat a profitable friend and there is no reason why suburbia should not consider this question also. Dettweiler says: "It furnishes to its owner without doubt the best milk for nourishing infants, for the household, for the cooking of food and for coffee, besides butter and cheese." It is recommended that if one purposes to use goats' milk two goats should be employed, one of which should become "fresh" in the spring and the other in the autumn. Hilpert states "that it serves as a means of preserving health; witness the cures with goats' milk in the mountain sanatoria especially from pulmonary disease." Dettweiler says: "Goats' milk most nearly resembles woman's milk, and on account of the ease with which it is digested is attended with happy results in the case of feeding of the sick and infants." Hoffman says: "Goats' milk more nearly resembles mother's milk than cows' when it comes to infant feeding." He also states that in Germany many children take the milk *direct from the udder* "as the kid does and thus escaped any chance of milk infection." Goats are good mothers and readily adopt infants, calves, and lambs. The use of goats' milk for suckling infants is familiar enough. Goats conceive a liking for the life which they nourish, since they conduct themselves with extraordinarily ready willingness to the one who takes their milk in the matter of gratifying the whims of a suckling or of the person who milks them.

In the analyses of human, cows', and goats' milk it will be noted that in the matter of albumin and casein human milk falls short of the goat's and the goat's shows a considerable lower percentage than the cow's. Goats' milk therefore more closely approximates to human milk than cows' milk in this respect and for the same reason the curd is less heavy, more flocculent, and more easily digested. Dr. O. G. Place, whose fields of observation have been New York, London, and Paris among the larger cities, and many of the cities in Italy, Arabia, China, and Japan, says: "Anyone who will take the trouble to look up the data will readily see that in those countries where the goat is domesticated and its milk is used in the family there is very little tuberculosis, almost no scrofulous glands, and the infant mortality naturally is decidedly less for these children who use the milk."

Italy is a country noted for its insanitary condition, and yet we find the infantile mortality 66 per cent. less than in our own country, and here too tuberculosis is seldom found. Italy is decidedly a goat country and there the feeding bottle is scarcely heard of. It is not an uncommon sight there to see an infant or small child drawing its dinner straight from the little goat which has been brought on to the steps or into the house for the purpose. In Norway we get the low death-rate of 44 per 1000. Here the wet nurse is employed in the absence of the mother and if neither is available the infant is fed direct from the little bowl into which the goat is milked. Feeding bottles are unknown in the country. A goat which gives less than a quart a day is not considered a milch animal. If it yields two quarts it is a good animal. In European countries the goats which yield from three to five quarts a day are very numerous and the period of lactation is a very long one. It is stated that many goats yield from 10 to 18 times their body weight annually. Zurn says: "Very good goats can produce 4–5 litres (approximately quarts) for each kilogram (2¼ pounds) of body weight, or at the least estimate *double* what a good milk cow can show for each kilogram of her weight." Many goats give milk for eight to ten months in the year.

Regarding the alleged odour of goats' milk, this is erroneous. If the goat is allowed to roam about and to eat weeds, twigs, and all kinds of vegetation at will the milk is apt to be very strong in odour. On the contrary, however, if the animal is fed purposely for obtaining palatable milk no odour can possibly be detected. Hook says: "*The milk from goats fed on an English meadow or roadside has no flavour to distinguish it from cows' milk.*"

I had purposed going into the feeding, breeding, and housing of goats but I will reserve that for a future communication. The above, I think, is quite sufficient in itself to form a plea for the goat, and it is to be hoped that local authorities will see the advisability of adopting this animal as a means towards the reduction of the excessive infantile mortality which forms a feature of this country.

Glasgow.

A CASE OF ACTINOMYCOSIS OF THE CHEEK CURED BY IODIDE OF POTASSIUM,

WITH SUGGESTIONS AS TO THE POSSIBLE MEANS OF INFECTION AND SPREAD OF THE DISEASE.

BY ROBERT KNOX, M.D. EDIN., M.R.C.S. ENG., L.R.C.P. LOND.

THE importance of an early diagnosis in actinomycosis cannot be over-estimated. Thereby prompt treatment is ensured and in the majority of cases it leads to complete cure. The interest in the case recorded below lies in the early recognition of the disease and the complete cure of the patient in a few months by the free administration of iodide of potassium.

The patient, a girl, aged seven and a half years, was first seen on Sept. 11th, 1905. The abscess of the cheek had been first observed by the child's parents early in August. The patient was a well-nourished child and presented on examination a small irregular nodular swelling on the right cheek midway between the upper and lower jaws. The appearance of the swelling is worthy of note because it is by observing points of difference between this and other abscesses connected with faulty teeth that suspicion may first arise as to the true nature of the disease. The tumour was of about the size of a small walnut and was irregular in outline; small areas of softening could be detected on palpation and semi-fluctuation could be elicited on carefully palpating the swelling with one finger in the mouth and the other on the cheek. At these points the cutaneous surface was greatly thinned out and presented a bluish-red colour. When first seen there were several places on the surface where the inclosed pus tended to point and a thin crust was already forming over these points. On carefully examining the buccal mucous membrane several small abrasions could be detected and it was obvious that it was at this point that the infection had taken place. These abrasions had been caused by two lower molars which were in a state of advanced decay and had very rough edges. The patient presented constitutional symptoms which are usually found in cases of this disease as in other diseases associated with suppurative changes. The pulse was rapid, 140 per minute, and the evening temperature rose to about 101°F. The child had lost weight, was very lethargic in her movements, and complained of feeling tired.

Suspecting the nature of the disease, I opened the abscess and the typical granules were seen in large quantities. One of these was teased out in water and showed on microscopic

examination the mycelium of the fungus. It is worthy of note that the organism can be recognised without any staining. A specimen was forwarded to Dr. Eastes who confirmed the diagnosis. The faulty teeth were removed and the mouth was kept clean by using a mouth-wash of boraldehyde. The swelling on the cheek was treated with boric fomentations. The patient was given iodide of potassium in increasing doses until a maximum of 45 grains per diem was reached. A month later the following notes were made: "Swelling somewhat smaller, discharge ceased. Temperature 99·6°, pulse 132. Weight stationary." The child continued to improve and when last seen, ten months after the commencement of treatment, she was in good health and the swelling had disappeared leaving a firm cicatrix with very slight disfigurement.

The interesting points of this case are—(1) the early diagnosis of the disease; (2) the great value of iodide of potassium in the treatment; and (3) the direct evidence of infection through the faulty teeth. The importance of diagnosing this disease in its earliest stages cannot be overestimated. The existing literature on actinomycosis is almost invariably a record of the later stages of the disease and the results are frequently bad. The point I would wish to insist on would be the systematic examination of discharges from any doubtful case, particularly when the lesion occurs in the vicinity of the mouth and teeth. Many cases may be overlooked until the later and graver lesions become evident.

Great differences of opinion exist as to the value of iodide of potassium in the treatment of actinomycosis. The important point is to use the drug at a time when there is a chance of eradicating the disease. Cases in the advanced stages of the disease may be benefited by its use, but the possibility of a cure is an extremely remote one. Whether the simple treatment of opening the abscess and draining it would be sufficient for a cure it is impossible to say, but in this case the fact remains that the patient did not begin to improve until she was thoroughly under the influence of the drug. The action of the iodide in this disease is unknown; possibly by promoting absorption of inflammatory products as they are formed it may check the spread of the disease. So far as I know, it can have no specific action on the organism of actinomycosis. Iodides are largely used in the treatment of this disease in veterinary practice and many cures have resulted. The evidence in the above case strongly points to infection of the tissues by way of the faulty teeth. The question then arises, How is the parasite conveyed to the patient? The generally accepted theory is that the parasite is carried on straw or grain to the subject in one of many ways, and without doubt cases are on record where this has been so, but there are many cases where the method of infection remains a mystery. In two other cases which I have had under my care the teeth had been faulty and both patients had suffered from alveolar abscesses and glandular suppurations earlier in their lives. Cases are recorded where the disease has been communicated by direct inoculation from one individual to another. In another case I had, an extensive skin lesion arose late in the history by the opening of an abscess connected with the pleura, illustrating a feature of the disease which is noteworthy—namely, the tendency of the disease to work from within outwards. This tendency was particularly noticeable in the case which forms the subject of this paper. The abscess pointed outwards and opened on the skin surface. Contrary to the usual method of treatment in abscesses about the mouth it was encouraged to open outwards, as the danger of infection of the alimentary canal was recognised if the discharge found its way into the mouth and stomach. The other possible method by which the disease can be spread is by the consumption of infected meat. There can be no doubt that such meat finds its way into the market and is consumed. Animals having this disease can be seen at any of the leading metropolitan markets and slaughter-houses almost daily. The practice prevails of condemning the affected parts of the animal and so far as it goes this is the proper thing to do, but it is possible for the smaller and presumably the more active centres of infection to be overlooked, and here may arise a possible danger to the community. In countries where the disease is more prevalent than in Great Britain it is customary to condemn the whole carcass of an affected animal. This seems to be the only method by which the danger of extending the disease to the human subject can be checked. The danger of infecting the human subject in this way must surely be a real one when it is considered necessary to take such radical measures in other countries. In animals, as in man, the macroscopic appearances of the infected tissues bear a close relationship to the lesions of tuberculosis and it is sometimes impossible to differentiate without an appeal to microscopic examination. Bearing this in mind it is very probable that the disease is more prevalent than is generally supposed.

The accepted method of infection—i.e., by grains and straw—cannot account for all cases. Some unsuspected and common source of infection must exist. This must be through the food-supply and, bearing in mind that such infected meat is consumed, is it not likely that such consumption may be an important factor in the spread of this disease?

Highgate, N.

THE SPA TREATMENT OF CARDIAC DILATATION.

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THE two following cases of cardiac dilatation illustrate the results obtained at Llangammarch Wells by the adoption of methods somewhat similar to the Nauheim treatment.

CASE 1.—A man, aged 50 years, gave a history of cardiac pain of three months' duration. He had always been healthy, had been an athlete, and also was a heavy smoker. He suffered from giddiness, palpitation, and sleeplessness, but there was no dyspnœa. Upon examination the heart was found to be dilated, the apex beat being slightly outside the nipple line. The pulse was regular, the rate being 90, and the tension was somewhat increased. The abdomen was distended with flatus and be was constipated. The treatment adopted consisted of the administration of a glass of barium mineral water three times a day, a course of graduated baths, one every other day, together with massage to the abdomen. He was also dieted and was directed to take moderate exercise in hill climbing. He soon began to improve, he slept better, and the diuretic action of the water was well marked. After a month's treatment there was a decided improvement in the condition of the heart, the dilatation being considerably diminished, the apex being now well inside the nipple line. He slept well, his digestion had improved, and he had lost all symptoms of discomfort in the region of the heart.

CASE 2.—The second case was that of a young man, aged 18 years, who had suffered from dyspnœa and cardiac pain for about one and a half years, following upon an attack of influenza. The heart was found to be dilated, the apex being in the nipple line. He had formerly had some albumin in his urine, but none was found while he was at Llangammarch. He was treated in a similar manner to the patient in Case 1 with the exception that no massage was given. He rapidly improved and lost his dyspnœa and pain and after three weeks it was found that the dilatation of the heart was much reduced, the apex being three-quarters of an inch inside the nipple line.

The favourable result of the above cases I attribute not only to the action of the mineral water but to the general spa treatment which has been indicated above.

Llangammarch Wells.

ST. JOHN AMBULANCE BRIGADE.—At a well-attended meeting of persons interested in ambulance work, held at Torquay on Oct. 16th, under the presidency of the mayor, it was unanimously resolved to form a division of the St. John Ambulance Brigade for the town, and Dr. T. Dunlop was appointed honorary surgeon.

UNIVERSITY OF LONDON.—We have received from the authorities of the University of London 17 pamphlets called Calendar pamphlets which contain the information in the Calendar of the University published separately for the convenience of students. Two separate pamphlets are issued for internal and external students of each faculty. They may be obtained at the price of 1*s.* each except that containing regulations and examination papers for matriculation, of which the price is 6*d.*

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

TWO CASES OF SCLEREMA NEONATORUM.

BY WILLIAM ARTHUR HUBERT, M.R.C.S. ENG., L.R.C.P. LOND.

THE following cases may be of professional interest. It will be remembered that Dr. Bertram Addenbrooke published two almost similar cases in THE LANCET of August 4th, p. 296.

The mother of the patients was a multipara who was delivered of female twins on Feb. 9th in the eighth month of pregnancy. Both children at first appeared to be healthy and well formed. Both took the breast; their bowels acted freely and urine was passed naturally. They weighed about four and three-quarter pounds each. On the third and sixth days respectively the twins were attacked by induration of the skin and subcutaneous tissue of the abdomen, which rapidly spread to the back, limbs, and face, the whole body becoming rigid as though frozen; the skin was hard, tense, cold, and did not pit on pressure. One child died on the fifth day and the other on the ninth day after birth.

With reference to the pathology of the disease the sudden onset and condition at death seem to point to solidifying of the subcutaneous fat due to rapid loss of heat in infants prematurely born.

Billingshurst, Sussex.

A CASE OF ACUTE YELLOW ATROPHY OF THE LIVER.

BY THOMAS ALPHEUS BUCK, M.B. LOND.

I HAVE read with much interest the cases of acute yellow atrophy of the liver recorded in THE LANCET, one under the care of Dr. de Havilland Hall on Oct. 13th, p. 995, and another under Dr. W. Curling Hayward being published on Sept. 8th, p. 651. As bearing on the rarity of the disease the following is the only instance of it that I can recollect in my practice of 40 years, during 30 of which I have been on the staff of the Royal Isle of Wight County Hospital. I had known the patient for some years, she having occasionally come to me with slight ailments. She had saved a little money in domestic service and married when about 47 years of age. The sudden onset and rapid termination of her illness caused suspicion among her neighbours. I, however, did not entertain this, being assured of my diagnosis from the first. The following history is transcribed from memoranda written at the time in my note-book.

On Feb. 3rd, 1891, I was sent for to see a married woman, aged about 49 years. She had been in bed since the previous day, when her illness began suddenly. She complained of feeling very ill, of incessant sickness, and of severe pain in the head and back between the shoulders. Her skin was intensely jaundiced, her tongue was dry with sordes on lip and teeth, and her pulse was exceedingly rapid, small, and uncountable. No liver dulness could be made out, and as she was extremely thin there was no difficulty in ascertaining this fact. The bowels were constipated. I prescribed one-tenth of a grain of calomel every quarter of an hour. On the 4th she was even worse in all her symptoms. She said that her bowels had been slightly moved the previous night. On the 5th I found her delirious. I could not get her to swallow. A sanguineous vaginal discharge had appeared. At midday I administered an enema of castor oil, turpentine, and gruel with no result. She rapidly became worse and died at 10 P.M.

I made a post-mortem examination and have a most vivid recollection of the liver, which was only of the size and thickness of a medium-sized hand. It was of a sulphur-yellow colour except over the right lobe, where a few blackish-green patches were distributed.

Ryde.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Oct. 26th, Mr. H. H. CLUTTON, the President, being in the chair.

Mr. DOUGLAS DREW showed a case of Traumatic Cephalhydrocele in a female child, aged six weeks, treated by operation. The infant was admitted to hospital within a few hours of the accident with a large swelling upon the right side of the head. There had been no loss of consciousness. For two days after admission twitching was noticed in the left arm and leg, and there was distinct impulse in the swelling when the child cried. The tumour gradually increased in size and the gap in the bone became much wider—half an inch. At the operation the sac containing the cerebro-spinal fluid was found to be formed of the separated periosteum. On allowing the fluid to escape profound shock ensued. The fracture was situated horizontally in the parietal, and through the centre of the opening a hernia cerebri protruded. Owing to the condition of the child no attempt was made to suture the dura mater; both the bones were forcibly drawn together with silver wire, the hernia cerebri was cut off, the periosteum was replaced, and the scalp wound was sutured. Mr. Drew added that he did not advocate draining the cerebral ventricles.—Mr. RICKMAN J. GODLEE referred to a case which he had observed and remarked on the rarity with which success followed on operation in such cases.

Mr. CHARTERS J. SYMONDS showed a case of Traumatic Separation of the Head of the Femur occurring in a boy, aged 16 years. He had fallen from a tree early in 1904 and resumed work in three days. After six months he had had pain and the present condition showed shortening of the neck of the femur with limitation of movement, and a skiagram showed that the head of the femur had been separated.

Mr. W. WATSON CHEYNE showed a case of Malunited Fracture of Both Bones at the Ankle-joint. The patient had fallen on July 25th, 1903, and fractured the base of the internal malleolus and part of the fibula at a higher level. On Jan. 5th, 1904, he was admitted to King's College Hospital with marked angular deformity, the leg being turned inwards just above the ankle, forming an angle of 150° with the leg above it. The foot was also rotated inwards and the patient walked on the outer border of the foot. On Jan. 13th two lateral incisions were made, the muscles and periosteum were stripped off, and the fractured bones were obliquely divided along the line of fracture. The fragments of the tibia were fixed together by an aluminium plate and tacks. The sharp end of the upper fragment of the fibula was inserted into the medullary cavity of the lower fragment and thus the bones were kept in firm apposition without any wire.

Mr. T. H. KELLOCK showed a case of Deformity of the Long Bones occurring in a girl, aged eight years. When aged three years she had slight genu valgum and a few months after had a greenstick fracture of the bones of the left forearm. About a year ago the left radius and ulna were again broken as the result of a fall. The deformity of the bones of the legs was now very great; there was marked genu valgum and the feet were strongly inverted as the result of curvature outwards at the lower ends of the tibiæ and fibulæ; the femora were a good deal curved in a forward and outward direction. In the upper limbs there was bending at about the middle of the radius and ulna on both sides. At the upper ends of the humeri a marked thickening and anterior curvature were noticeable. Skiagrams of the bones showed that the chief part of the deformity was apparently due to fractures and irregular ossification occurring at short distances above the epiphyseal lines.—Dr. A. E. GARROD discussed the significance of the transverse lines seen above the epiphyses in the skiagrams.—The PRESIDENT referred to these and to the epiphyseal lines, saying that they resembled the changes in rickets; the case also resembled some of the cases of late rickets which he had lately exhibited. He thought that many cases of fragilitas ossium were in reality instances of late rickets.—Mr. KELLOCK replied that though the changes revealed by the skiagrams

might resemble those of rickets in some respects they were more like fragilitas ossium.

Mr. KELLOCK also exhibited a case of Symmetrical Arthritis of the Hip-joints, occurring in a boy, aged eight years.—Mr. V. WARREN LOW believed that the changes resembled those found in septic osteo-arthritis. It was known that colitis was capable of setting up such changes, and this boy had had an attack of what was said to be dysentery when he was a few weeks old.

Dr. PERCY NORTHCOTE and Dr. A. M. GOSSAGE showed a case of Partial Heart-block. The patient, aged 58 years, had had syphilis at the age of 21, but had otherwise been healthy until four years before, when he had had a sudden attack of unconsciousness. Since then he had had numerous similar attacks. The attacks were either a momentary giddiness or complete unconsciousness for several seconds. On examination the arteries were found to be much thickened and the systolic blood pressure equal to 178 millimetres of mercury. The urine generally contained a small quantity of albumin. When first seen the ventricles were beating at 68; the patient suddenly felt giddy, and the rate dropped to 32. As a rule the pulse-rate was 30. Observation under the x rays showed that the auricles were beating at double the rate of the ventricles, and the bradycardia was probably due to depression of conductivity in the bundle of His between the auricles and ventricles. The more severe attacks were associated with the non-conduction of a series of auricular beats to the ventricle; for instance, in one attack no sound was heard over the heart for five seconds. In the tracing shown the interval between two successive ventricular beats was also about five seconds.—Dr. GOSSAGE expressed the belief that bradycardia was mostly due to a non-continuance of the auricular into a ventricular systole.—Dr. ALEXANDER MORISON discussed the data of the diastolic pause and of the sounds heard.

Mr. EDRED M. CORNER showed a case of (?) Syphilitic Disease in the Bones of one Limb. A girl, aged seven years, was noticed 13 months ago to limp whilst walking. On August 2nd she was taken to St. Thomas's Hospital, when it was found that the right leg was two and a half inches shorter than the left. The upper section (from the anterior superior spine of the ilium to the lower end of the femur): right side, nine and three-quarter inches; left side, eleven and three-quarter inches; difference, two inches. The lower section (length of tibiæ): right side, seven and a half inches; left side, eight inches; difference, half an inch. The shafts of the right femur and tibia were thickened, particularly at their upper and lower ends. The bones had an ill-defined surface and in their internal structure presented a vacuolated appearance. The disease affected chiefly the epiphyseal ends of the shafts of these bones.

Dr. H. G. TURNEY showed three female patients, aged 20, 29, and 31 years respectively, suffering from Patent Ductus Arteriosus with Arterio-Venous Murmur.—Dr. WILLIAM EWART thought that two of the cases might be due to pulmonary stenosis, the diastolic part of the continuous murmur resulting from aortic regurgitation.—Dr. FREDERICK TAYLOR agreed with Dr. Ewart, and said that even when a patent ductus arteriosus was present there might be no continuous murmur.

Sir HUGH R. BEEVOR exhibited a case of Large Abdominal Cystic Tumour, probably of renal origin, in a boy, aged 16 years. The swelling had some features only of enlarged spleen; the symptoms were those of mechanical interference with the circulation and respiration. The condition had been stationary for 12 months though the dyspnœa was first noticed two years ago.

Mr. GODLEE showed a case of Double Coxa Vara. The patient was a boy, aged 16 years, who stated that, though he always turned his toes out, he was active and could play games up to August, 1905, when a barrow fell against him and broke his right thigh. The right great trochanter was more prominent than the left, and was three-quarters of an inch above Nélaton's line. Both limbs were rotated out; abduction, flexion, and rotation in were much limited. Walking was difficult; the gait was that common in cases of coxa vara. Skiagrams appeared to show double coxa vara, with possibly fracture of the neck of the right femur.

Mr. H. C. G. SEMON (introduced by Dr. J. ROSE BRADFORD) showed a case of Xanthoma with Enlargement of the Liver. The patient, a widow, aged 60 years, was admitted to University College Hospital with a history of jaundice of seven years' duration. Two years ago numerous yellow masses had developed on the limbs and body. The liver had been found to be enlarged. Laparotomy had been performed in the Sussex County Hospital. The liver had been indurated and scarred and numerous enlarged glands had been felt in the abdomen, along the spine, and in the portal fissure. At the present time the liver was much enlarged. The yellow nodules of the skin were in some cases moveable, but in others appeared to be fixed in a varying degree to subjacent periosteum or bone.

Mr. SEMON also exhibited a case of Acromegaly.

Dr. D. C. L. FITZWILLIAMS (for Mr. C. A. BALLANCE) showed a boy from whom a Cerebellar Tumour had been removed. At the age of four years and ten months he had been admitted to the Hospital for Sick Children under the care of Dr. W. S. Colman in May, 1905, with symptoms of cerebellar tumour. An operation was performed by Mr. Ballance in the following month, and a large tumour (which was shown) was removed from the cerebellum. The child had made a good recovery.

Dr. GARROD showed a new case of Alkaptonuria in a girl, aged three years. Her parents were not blood relations and there were no other known cases in their families. The patient was an only child. Alkaptonuria was much rarer in females than in males and only six or seven congenital cases in females had hitherto been recorded out of a total of about 40 congenital cases. The child came under Dr. G. F. Still's observation as an out-patient on account of the appearance of her urine and the staining of clothing by the urine, which was noticed on the second day of life. The urine darkened on exposure to air, darkened conspicuously with alkalies, and yielded a transient blue colour with dilute ferric chloride solution. It reduced Fehling's solution with the aid of heat and ammoniacal silver nitrate in the cold. It was optically inactive.

LIVERPOOL MEDICAL INSTITUTION.

Extroversion of Intestinal Mucous Membrane.—Cæsarean Section.—Charcot's Joint Disease.—Gastric Ulcer and Dyspepsia.

A MEETING of this society was held on Oct. 25th, Mr. FRANK T. PAUL, the President, being in the chair.

Mr. G. P. NEWBOLT showed a patient in whom fæcal fistulæ complicating an attack of tuberculous peritonitis had been cured by intestinal anastomosis. Extensive prolapse and extroversion of the mucous membrane of the small intestine with profuse discharge of mucus now existed at the site of the old fistulæ.—Mr. R. W. MURRAY mentioned a similar case which had been under his care and in which he had successfully performed intestinal anastomosis, but the patient died 12 months later owing to an accumulation of intestinal secretion in a portion of the gut which had been completely occluded.

Dr. ARTHUR J. WALLACE read a note on Cæsarean Section based on an experience of 16 cases, in 13 of which operation was indicated for pelvic deformity and in three for obstruction by tumours. The former included four instances of the repeated operation. The maternal mortality was 6·25 per cent., the only death occurring in the case of a patient who was probably infected before admission to hospital. The performance of every Cæsarean section in such a way as to permit of future pregnancy was advocated.—Dr. H. BRIGGS alluded to the tedious management after Porro's operation in his earlier experience and to the almost invariably easy recovery of the patient after Cæsarean section in his recent practice. In one patient whose pelvis was contracted after tuberculous sacro-iliac disease there was only an enfeebled constitution to account for the fatal shock nine hours after a smooth and uncomplicated operation in a well-equipped public hospital. In private practice he had successfully operated in three cases and he thought it was well to appreciate beforehand the inconvenience and dangers—unexpected labour, a midnight operation, distance of locality, and lack of equipment. He preferred a clean healthy peritoneum to utero-parietal adhesions, which were liable to be imperfectly maintained and if complete enough for a future Cæsarean operation they would rarely be an unmixed advantage.

Dr. T. R. BRADSHAW showed a man, aged 37 years, with Charcot's Disease of the Ankle. The joint was disorganised, the astragalus being dislocated forwards and the malleoli much enlarged. The condition had existed over three years but the patient was still able to use the limb. The patient had tabes dorsalis in the pre-ataxic stage, evidenced by

lightning pains, myosis, Argyll-Robertson pupils, absence of knee-jerk, and a rapid pulse. There was good reason to suspect antecedent syphilis.

Dr. J. HILL ABRAM read a paper on Gastric Ulcer and Dyspepsia. The first section of the paper dealt with the difficulties of diagnosis of ulcer, stress being laid upon failing nutrition, localised pain and tenderness, especially the "douleur en broche." Hæmatemesis could not be regarded as a decisive symptom and cases were quoted in support of this statement in which the stomach had been examined directly. Dr. Abram suggested that the diagnosis of ulcer was made too readily by physicians and that the strong surgical statements of recent years were due to this fact. In support of this position he quoted several sets of figures and showed from the Liverpool Royal Infirmary Reports (1896–1905) that in the medical wards out of 293 cases only 14 were males, whilst in the surgical wards out of 134 cases 43 were males; further, that the mortality-rate in the medical wards was 4·8 per cent., whilst in the surgical wards it was 26 per cent. He then discussed the question of hæmatemesis, and stated that he had not seen a fatal case of hæmatemesis in simple chronic stomach patients, and also his belief that medical treatment was sufficient. Dr. Abram criticised the statement that chronic dyspepsia was in a majority of instances due to mechanical interference with the stomach the result of old ulceration. In four years 127 cases of chronic stomach trouble, cancer, congestion, and the dyspepsia of tuberculosis being excluded, had passed through his wards at the Royal Infirmary. In 35 only could he admit that the symptoms or the course of the disease and the results of treatment justified a diagnosis of ulcer or its results; 13 of these had to be transferred to his surgical colleagues. In true cases of gastric ulcer the modern surgical position was probably sound. The common causes of chronic dyspepsia were, in his opinion, first and foremost constipation and secondly neurasthenia. Dr. Abram offered proof of the mode of action of constipation, holding it to be reflex and not auto-intoxication. Finally, he emphasised the risk of classing cases of neurasthenia as examples of dilated stomach and said that in such cases operation would do but little credit to surgery.—Dr. BRADSHAW said that arbitrary rules founded on the situation and character of the pain could not be implicitly relied on. In practice this class of case was treated by rest and dieting, when the patient almost always recovered for a time. If, as often happened, successive relapses occurred on returning to ordinary diet and mode of life, the medical adviser felt bound to offer the chance of benefit from surgical interference. In a certain proportion of cases thus dealt with no benefit would result, but it was not always possible to tell before operation which were the cases not amenable to it. As Sir W. Gowers had said in another connexion, in order that they should be right in 19 cases they must be content to be wrong in the twentieth. For his own part he had always seen great benefit from operation in gastric ulcer, and where there was no benefit he could not remember any case where the operation had made the patient worse than before.—Dr. C. J. MACALISTER thought that there should be joint action between the physician and surgeon in cases of doubt but did not consider that hæmatemesis warranted the case being turned over to the surgeon because the symptom did not always indicate ulceration. In a case with a history of hæmatemesis and in which the patient had been suddenly seized with violent pain in the stomach region, giving rise to a suspicion of perforation, on opening the abdomen tuberculous peritonitis, and not gastric ulcer, was found. Dr. Macalister related a case showing that appendicitis and gastric ulcer might occur together in the same patient without any interdependence. Constipation was not always a cause of dyspepsia; he had had many cases of severe constipation under his care in which there were no symptoms of dyspepsia. Constipation was in all probability in many cases of chronic dyspepsia an effect and not a cause. A healthy stomach meant healthy action of the intestinal glands.—The following members also discussed the paper: Mr. G. G. HAMILTON, Mr. RUSHTON PARKER, Dr. R. J. M. BUCHANAN, Dr. A. G. GULLAN, and Dr. J. LLOYD ROBERTS.—Dr. ABRAM replied.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Oct. 19th, Dr. J. Lindsay Steven, the President, being in the chair.—Dr. J. Galbraith Connal showed: 1. A case of Sphenoidal Sinusitis in a man, aged 30 years. The symptoms were nasal obstruction and discharge from the right nostril of many years' duration. Headache was specially severe when the discharge ceased and was referred to the ear or the neck and sometimes to the forehead. Occasional dimness of sight was complained of. The middle turbinal was hypertrophied and covered with a large crust. It was removed under cocaine anæsthesia and the anterior wall of the sphenoidal sinus was broken down by Hajek's hooks and an area of caseous bone curetted. The retained pus was evacuated. Difficulty in keeping the opening patent was experienced. 2. A man, aged 67 years, operated on for combined Empyemata of the Maxillary Antrum, Frontal, Ethmoidal, and Sphenoidal Sinuses. The maxillary antrum was opened from the canine fossa with a counter opening in the nose. The frontal sinus was opened from the outside. He thought that with nasal infection more than one cavity was generally involved. 3. A case from whose left nostril a large Sarcomatous Tumour was removed three years ago and in whom there had been no recurrence. It appeared to originate at the posterior extremity of the turbinal and spread forwards, becoming attached to the septum and floor. 4. A boy, aged 12 years, who had had a Primary Diphtheria of the External Auditory Canal. There was a perforation of the left tympanic membrane (and a purulent discharge) and for weeks the temperature continued subfebrile. The radical mastoid operation was performed.—Dr. Connal also related the history of a case of Purulent Otitis Media, chronic on the right side but acute on the left, with some pain, sickness and vomiting, and rigor. The optic discs showed an early papillitis. The radical mastoid was performed over the left side. Foul-smelling pus escaped between the tegmen and the dura mater. The sinus was exposed but looked healthy. Rigors and high temperature followed two days after and the internal jugular was ligatured. The lateral sinus was further exposed and a firm grey clot cleared out until free bleeding started. The sinus was then packed. The patient died from septic pleuro-pneumonia. Post-mortem examination revealed effusion into the pleural cavities and multiple abscesses in the lungs. Purulent clot was found in the left lateral sinus.—Dr. Alexander McLennan showed Spirochætæ from Syphilis, Yaws, and Granuloma Pudendi. The probability of the spirochæta pallida being the cause of syphilis had been advanced by recent research. The serum from an eight months' syphilitic had been found to possess at least a feeble agglutinating power over the spirochæta pallida and also to still the movements of the living organism. Healthy serum did not do this. The organism has been found in congenital syphilis in numbers usually corresponding to the severity of the lesions. The further discovery of spirochætæ on the skin of congenital syphilitics, apart from any local lesion, was important. Histologically the spirochæta pallida was found to inhabit the deeper structures rather than the immediate surface. It had also been demonstrated in countless numbers in sections of the congenital manifestations. These facts, while apparently supporting the view that the spirochæta pallida was the cause of the disease, required sifting. If this was so then the view that the congenital type was only feebly contagious was unwarranted. Syphilis for its spread did not depend upon the congenital but upon the surface discharges from the acquired lesions. In these the spirochæta pallida was more evident in the deeper parts and was admittedly scanty in the surface discharge. In the discharges from the primary and secondary lesions of the acquired form numerous small protoplasmic bodies were found. They might occasionally possess flagella. In a recent article[1] he showed the relationship between these and the spirochæta pallida which, while not the cause of the contagion, might have something to do with its lesions and was, indeed, part of the life cycle of the infecting organism. It was necessary to differentiate these organisms from artefacts, deposits of stain, and from protoplasmic buds from the tissue cells or from nuclear débris. Such buds he had found present in all smears from lymphatic glands enlarged from whatever cause. When, however, hordes of feebly staining bodies varying in size and shape were present in the surface discharge the probability of their being protozoal became stronger. The spirochæta found in yaws was, as already pointed out by Castellani, almost identical with the spirochæta pallida, while those found in granuloma pudendi were more delicate, more closely waved, and very much

[1] Brit. Med. Jour., May 12th, 1906, p. 1080.

longer and more difficult to stain.—Dr. J. W. Allan read a paper on the Need for a Progressive Study of Industrial Diseases. He described in detail industrial diseases such as anthrax and lead poisoning and argued that the subject was of sufficient importance to justify the establishment of a lectureship on the subject.—The President said that for those specialising in that branch of medicine it was of course a necessary study and that the subject was now being taught in medical jurisprudence classes. The medical curriculum was too heavily burdened to justify the addition to it of such a special subject.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—The opening meeting of this society was held on Oct. 19th, Dr. A. H. Bampton, the President, being in the chair. The President gave an address entitled "Olla Podrida, with Comments on Some Recent Advances in Medicine."—Mr. H. Littlewood read a paper on Two cases of Removal of the Spleen for Traumatism (the patients and specimens were shown). 1. A boy, aged 11 years, was operated on on March 6th, 1905, about 48 hours after the onset of symptoms. He was playing on a trapeze and two or three hours afterwards intense abdominal pain commenced; this continued until the time of the operation. He was suffering from peritonitis and a large mass was felt in the left of the abdomen; this was diagnosed as a displaced spleen. On opening the abdomen the mass was found to be a displaced spleen, completely twisted on the gastro-splenic ligament one and a half times; the splenic vessels were thrombosed and the surrounding intestines were distended and inflamed. The pedicle was clamped, divided, and ligatured and the spleen was removed. It weighed two pounds. The phreno-colic ligament was very tender and had ruptured. The patient made a good recovery and was now apparently quite well. 2. A man, aged 33 years, was operated on five hours after the accident for ruptured spleen on August 20th. There were two lacerations, one a very large one, and a good deal of blood in the peritoneal cavity. The spleen was removed. The patient made a good recovery. Mr. Littlewood discussed displacements of the spleen, with acute and chronic twisting of the gastro-splenic omentum, and also the twisting of other abdominal organs and traumatic intra-abdominal hæmorrhage.—Dr. O. C. Gruner gave an account of the blood in the case of ruptured spleen and Dr. S. G. Scott of that in the other case.—Mr. R. Lawford Knaggs, Mr. E. Ward, and Dr. T. Churton discussed the paper.—The following cases and specimens were also shown:—Dr. A. G. Barrs: The lungs from a case of General Sarcomatosis in which the deposit was limited to, and universally involved, the pleura.—Mr. M. A. Teale: Persistent Hyaloid Canal with Opaque Retinal Nerve Fibres.—Dr. P. J. S. Bird: A case of Fracture of the Lower Jaw across the neck of both condyles.—Dr. W. H. Maxwell Telling: A case of Secondary Syphilis Framboesioides.—Mr. J. F. Dobson: (1) A Child with Multiple Adenomata of the Rectum; and (2) a case of Colotomy for Imperforate Rectum.—Dr. E. F. Trevelyan: A case of Choreiform Movements of the Leg in a patient aged 60 years.—Cases and specimens were also shown by Mr. A. L. Whitehead, Mr. H. J. Roper, Mr. W. H. Brown, Dr. L. A. Rowden, Dr. Churton, Dr. T. W. Griffith, and Mr. Knaggs.

HARVEIAN SOCIETY.—A clinical meeting of this society was held on Oct. 25th, at St. Mary's Hospital, Dr. F. W. Cock, the President, being in the chair.—The following cases were shown: Dr. Sidney P. Phillips: (1) a case of Dextrocardia; and (2) Congenital Heart Disease in a girl, aged 18 years. There was deep cyanosis, present since birth, with marked clubbing of the fingers. No cardiac murmurs were present. He considered that the probable lesion was absence of the interventricular septum.—Dr. J. F. H. Broadbent and Dr. M. F. Squire discussed the case and agreed with Dr. Phillips as to the cause of the condition, and the latter related a recent post-mortem experience confirmatory of this.—Mr. J. Jackson Clarke showed three cases of Congenital Hip Disease in children, aged three, three, and three and a half years respectively, completely cured by Lorenz treatment and exercises, and a fourth case in which the dislocation had been cured by operation; all that was now required was treatment by suitable exercises to relieve the abduction resulting from fixation in the abducted position.—Dr. B. H. Scanes Spicer showed a case of Inoperable Cancer of the Throat which had greatly benefited from injections of a vaccine of micrococcus neoformans.—Mr. Jackson Clarke, Mr. B Spilsbury, Dr. W. Hill, Dr. G. Eastes, and the President discussed the case.—Dr. Scanes Spicer then demonstrated a method of direct examination of the trachea and bronchi, or œsophagus, which was of great service in the removal of foreign bodies.—Mr. W. Parry Morgan (for Dr. A. P. Luff) showed a case of a large rounded Tumour in the Epigastric Region of three months' duration in a man, aged 54 years, which appeared to be a carcinoma of the stomach. There had been sickness and pain but now he was able to take food without discomfort.—Dr. W. H. Willcox stated that examination of the stomach contents showed the absence of free hydrochloric acid and the presence of a quantity of mucus, and he considered that it was mainly the muscular coat of the stomach which was affected.—Dr. Broadbent thought that the growth might possibly be a sarcoma.—Dr. Willcox (for Dr. Luff) showed a case of Copper Poisoning in a man. The patient had had vomiting and abdominal pain and when admitted there were a well-marked deep blue line on the gums and slight tremor of the hands. He had found copper and zinc in the urine and fæces. The patient had been doing a lot of brass-polishing recently and apparently must have been careless about cleaning his hands and been poisoned by brass, which is an alloy of copper and zinc. This appeared to be the only possible source of poisoning.—Dr. W. H. Lamb and Dr. Eastes discussed the case.—Dr. F. S. Langmead showed (for Dr. W. Harris): 1. A case of Pseudo-bulbar Palsy. The patient was a man, aged 34 years, who eight weeks ago suddenly lost his voice and had some weakness of the right side and a coarse tremor of the right arm when excited. There was no obvious wasting of the tongue or paralysis of the soft palate and he could swallow well. He could at times speak several words of intelligent speech in a whisper.—Dr. Broadbent considered that the case might be functional. The loss of voice was aphonia rather than aphasia and came on suddenly. The tremor only appeared when the man was excited and from the character of the symptoms it was difficult to trace them to any definite organic lesion. 2. A case of Tumour of the Right Optic Thalamus in a man, aged 24 years. There were loss of power in the left arm and leg of five weeks' duration, blindness of the left lower quadrant, with headache, vomiting, and optic neuritis.—Dr. Broadbent showed a specimen of Aneurysm of the Aorta which compressed the superior vena cava and had caused paralysis of the left vocal cord. The patient, a man, aged 49 years, who was to have been shown, had died suddenly five days before from rupture of the aneurysm.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held on Oct. 24th, Dr. Leslie Roberts, the President, being in the chair.—Dr. E. Stainer showed a case of Xeroderma Pigmentosa (Kaposi's disease) in a boy, aged nine years, in whom the pigmentation commenced when he was three years old. At the present time there were numerous freckles upon the face, neck, and arms, accompanied by considerable pigmentation, while upon the face were several warty growths. Those which had been examined presented all the characteristics of squamous-celled epithelioma.—Mr. Spencer Hurlbutt showed: 1. A case of Syphilis in which the primary lesion upon the little finger had followed a scratch from a kitten. 2. A man with patches of Eczema Seborrhœicum Areatum upon the legs.—Mr. T. J. P. Hartigan exhibited: 1. A case of Rodent Ulcer in a patient who had had syphilis and which had been treated with radium. The condition had greatly improved. 2. A case of Paget's Disease of the Breast similarly treated. 3. Drawings and microscopical specimens of a case of Blastomycosis, the first true case of which he believed he was the first to record in this country, occurring in a girl, aged 11 years.—Dr. T. D. Savill showed a young woman with a Peculiar Urticarial Eruption of eight years' duration, associated with several other clinical phenomena of great interest, such as swellings of an angio-neurotic character about the body, pleural effusion, hemiplegia, and some general pigmentation of the skin. The term "urticaria fibrosa" was suggested.—Dr. E. G. Graham Little showed a young man with small patches of Tinea Circinata over the Sternum.—Mr. G. W. Dawson exhibited a man with a severe Eczematous Dermatitis occasioned by handling chrysanthemums.—Dr. G. Norman Meachen showed: 1. A little boy with a Peculiar Mottling of the Skin, associated with Congenital Heart Disease. There was a patchy congestive erythema affecting the hands and feet in particular. 2. A girl, aged 14 years, with Extensive Scars all over the Body. The lesions were said to have commenced at the age of ten

months and were of the nature of impetigo, the resulting scar being sharply delineated, depressed, and persistent. Various hypotheses as to the nature of the eruption were brought forward by the members.—Dr. A. Eldowes showed two cases bearing upon the Etiology of Psoriasis.

HUNTERIAN SOCIETY.—A clinical meeting of this society was held on Oct. 24th, Mr. John Poland, the President, being in the chair.—Dr. Leonard Williams showed (1) a case of Peripheral Neuritis in a man; (2) a female patient with Tabes Dorsalis; (3) a patient with Congenital Hemiplegia and Paralysis Agitans; and (4) a Mercurial Manometer for Registering the Blood Pressure.—Mr. W. C. G. Ashdowne showed: 1. Two sisters, aged two years and three and a half years respectively, with Congenital Dislocation of the Hip. The dislocation was on the right side in the younger child and on the left in the elder. The condition was being treated by manipulation. 2. A child, aged one year and six months, from whom a Meningo-myelocele in the Lumbar Region had been removed eight days after birth. 3. Two Gall-stones removed from the Cystic Duct, the first from a dissecting-room subject and the second by operation. In neither case was there any distension of the gall-bladder.—Dr. Edmund Cautley showed: 1. A man with an Aneurysm involving almost the whole of the Arch of the Aorta. This case led to a discussion on the value of Tuffnell's treatment. 2. A small boy who had suffered from Encephalitis Inferior, involving the Nuclei of the Right Sixth and Left Seventh Nerves. 3 A man with Polycythæmia.—Mr. C. G. Watson showed: 1. A boy, aged 13 years, on whom he had performed Excision of the Knee for Tuberculous Disease three and a half years ago. There was no flexion and the femur and tibia had grown *pari passu* with the bones of the sound leg. 2. A woman, aged 61 years, who had developed Streptococcic Peritonitis 24 hours after an operation for Perforated Gastric Ulcer. Polyvalent antistreptococcic serum had been injected four times with excellent result. A gastric fistula which had formed was healing spontaneously.—Dr. A. C. Jordan exhibited X Ray Apparatus, a diaphragm which produced greater clearness in skiagrams, a Wheatstone's reflecting stereoscope, and an interesting series of photographs.

Reviews and Notices of Books.

A Text-book on the Practice of Gynæcology for Practitioners and Students. By WILLIAM EASTERLY ASHTON, M.D., LL.D. With 1046 new line drawings illustrating the text. London and Philadelphia: W. B. Saunders. 1905. Pp. 1079. Price *27s. 6d.* net.

THIS comprehensive manual of quite inordinate length certainly leaves nothing either to the imagination or to the common-sense of its readers, as the author admits in his preface. It is interesting as an example of what can be accomplished in the way of writing a so-called text-book if the necessary amount of energy and time be forthcoming. The work extends to 1079 pages and there are 1046 illustrations, or almost one to every page. We must, however, at once admit that in our opinion the amount of labour required to write such a compendious work has to a large extent been wasted. No doubt there are many students or practitioners who wish to know the views of Professor Ashton on the various details of gynæcological practice, but even these we should have thought would like to have placed before them the practice of some other authorities, at any rate on subjects in which there may quite legitimately be difference of opinion. This is not, however, done in this book, as it represents the views and teachings of its author, and his alone. Everything is discussed in the most minute detail and every operation is fully illustrated, not only the various steps of the operation being figured, but even the instruments required, although this results in the repetition many times over of drawings of such instruments as artery pressure forceps, scalpels, scissors, and needles. As we have said, everything is discussed in the most complete manner and a good example of this is afforded by the description of the obtaining of specimens of discharges for bacteriological examination. The first portion of the book dealing with various general subjects, such as microscopic and bacteriological examinations, x rays, the blood in relation to gynæcological diseases, hydrotherapy, constipation, diet, exercises, and saline injections, contains a large quantity of most valuable information. Indeed, there is much to be commended in this work and it is all the more unfortunate that the author has not been able to compress what he had to say into a more manageable compass. No doubt such a book will be of assistance to the American student whose opportunities of good clinical instruction are no doubt often scanty but we fear that Professor Ashton's treatise is too diffuse to meet with much favour at the hands of the student or practitioner in this country.

Die Krankheiten des Beckenbindegewebes. (*The Diseases of the Pelvic Connective Tissues.*) Edited by A. MARTIN, Greifswald, in collaboration with J. A. AMANN, jun., Munich; O. BUSSE, Posen; and PH. JUNG, Greifswald. With 11 plates and 24 illustrations in the text. Berlin: S. Karger. 1906. Pp. 360. Price 14*s.* net.

THIS volume forms a worthy successor to the previous volumes of this work issued under the editorship of Professor Martin—namely, "Die Krankheiten der Eileiter" and "Die Krankheiten der Eierstöcke und Nebeneierstöcke." The two former volumes are well known to all gynæcologists and have remained amongst the most important works published on their respective subjects. The appearance of the third volume of the series will therefore be welcomed by all who are acquainted with the first two. In it the editor has had the assistance of J. A. Amann, jun., Otto Busse, and Ph. Jung.

The book commences with an article on the Anatomy and Physiology of the Pelvic Connective Tissues by Ph. Jung. This includes a very clear account of the distribution of the connective tissue and also of the fasciæ, the blood-vessels, nerves, and lymphatics. It is illustrated by several plates, of which the most interesting are those showing the distribution of the nerve elements around the cervix. The section on Peri-uterine Extra-peritoneal Hæmatoma is written by the editor and contains an account on the pathological anatomy of this affection by Dr. Busse. The etiology of this disease is discussed at length and its relationship to extra-uterine gestation is pointed out, although, curiously enough, we notice that Professor Martin has not met with an example of a hæmatoma due to extra-uterine gestation himself. The chapters on the Different Varieties of Parametritis are exceedingly good and full. Besides the common puerperal form that due to trauma and gonorrhœa is discussed, and lastly, the variety of chronic atrophic parametritis first called attention to by Freund. The few cases of hæmatocele which owe their origin to some other condition than extra-uterine gestation are always of great interest. The possibility of the occurrence of hæmorrhage from the rupture of the ovarian follicles is admitted and the instances which have been recorded are described. Professor Martin does not believe in the occurrence of tubal menstruation but he allows the possibility of hæmorrhage taking place from a diseased tube and a reflux of blood from the uterine cavity finding its way into the cavity of the peritoneum. The important relations obtaining between the condition of the pelvic peritoneum and the ready absorption of effused blood clot are described at length by Dr. Busse. He points out that, in order that blood may be absorbed, it is necessary that it should be fluid and the peritoneum in a perfectly healthy condition. In considering the treatment of intra-uterine hæmatocele the editor recommends in cases due to other causes than extra-uterine gestation that expectant treatment

should be adopted unless there are signs pointing to the occurrence of further hæmorrhage or to the onset of suppuration in the collection of blood. In those cases definitely due to an extra-uterine gestation it is important to remember that the signs of the death of the ovum are not at all certain and it is often most difficult to determine this with any certainty. Hence these cases are more likely to call for operative treatment. In the great majority of cases of pelvic hæmatocele, however, absorption undoubtedly takes place and the patients become cured without any treatment at all, and to this fact must be given due weight in settling what line of treatment is to be pursued.

Pelvic peritonitis is divided for purposes of description into the two classes of non-infectious and infectious peritonitis, and the latter variety is further divided into septic, saprophytic (*saprische*), gonorrhœal, and tuberculous. From time to time cases of peritonitis undoubtedly are met with in which the etiology is a matter of great uncertainty. The writer of this section (the Editor) apparently believes in the possibility of the occurrence of a variety of peritonitis not due to organisms. Whether this belief will stand the test of further bacteriological investigations is a matter for the future to decide. Some researches of recent years tend to show that the cases of peritonitis in which the complete absence of any organism can be demonstrated with certainty will become fewer and fewer in number as our means of investigation become more certain. In the clinical recognition of cases of saprophytic (*saprische*) peritonitis stress is laid on the want of correspondence between the temperature and the frequency of the pulse-rate. The former is but little elevated whilst the latter may be markedly accelerated. In the same way the rapidity of the respiratory-rate is often out of proportion to the degree of fever present.

The book concludes with a most complete and interesting account of the new growths of the pelvic connective tissue by J. A. Amann. This includes a consideration of the commoner forms, such as fibromata, myomata, sarcomata, and lipomata, and the more uncommon forms, such as dermoid cysts, adrenal element tumours, and echinococcus cysts. The chapter gives the fullest and most valuable account of these forms of new growths which has yet been written and will be of great service to all gynæcologists and pathologists who may wish for information about these rare tumours.

The whole work is one of great value and forms a fitting conclusion to the series composing the "Handbuch der Krankheiten der Weiblichen Adnexorgane."

La Médecine à Genève jusqu'à la fin du dix-huitième Siècle. (*Medicine at Geneva up to the end of the Eighteenth Century.*) With 11 portraits. By Dr. LÉON GAUTIER. Genève: J. Jullien and Georg et Cie. 1906. 8vo. Pp. 696.

THE book before us has been a labour of love and is based upon the life-long but unfinished researches of Dr. André Duval, a Genevese physician, who on his deathbed handed over his manuscript to his colleague, Dr. Léon Gautier. While making the fullest acknowledgments to his predecessor, Dr. Gautier very properly points out that the book is his own and that Dr. Duval's researches have been greatly extended by himself. The history of the medical profession in any community is interesting, especially when based on masses of official data. But the medical history of Geneva, one of the time-honoured centres of European enlightenment, is of particular importance. Moreover, Dr. Gautier has been able to base his record on the voluminous civic archives of Geneva. His work has taken him 20 years and he is to be congratulated on having produced a scholarly addition to the history of the medical profession on the continent.

Quite the most interesting part of his book is that dealing with the age of the Reformation which turned Geneva into a city of refuge for the persecuted Protestants of all countries. Among these were not a few medical men who thus brought their talents into a common stock and made the sturdy Genevese Republic a focus of light as early as 1535. It is known that Calvin was on terms of close friendship with his medical adviser, one Tixier or Textor, of Macon, and that the reformer dedicated a commentary to him and protected his printer from religious persecution. A better known physician, Philibert Sarasin, attended Calvin in his last illness and founded a medical family in Geneva. Rustici, physician to the Italian refugees, in Geneva at the time of the Reformation, was the earliest translator of the Bible into Italian. Rustici's translation held the field until Diodati published his well-known version in 1603. Bolsec, author of a polemical life of Calvin, was an irregular practitioner of medicine in Geneva who incurred the censure of the reformer and underwent persecution at his hands. It was at Geneva that the great Michael Servetus, discoverer of the pulmonary circulation,[1] was imprisoned and afterwards burnt by Calvin's orders. Servetus had been accused of disbelief in the Trinity and his cruel fate is a blot on Calvin's memory and on the history of the Protestant Reformation.

A long treatise might be written on the relations of Calvin and the reformers with medical men who in that age were much mixed up in politics and theological controversy. Not less interesting than the case of Servetus is Dr. Gautier's account of two hideous plots to spread the plague through Geneva. In one of these conspiracies Jean Placet, the surgeon-in-charge of the Genevese plague hospital, agreed with others to infect the Genevans by means of handkerchiefs and artificial flowers previously infected, and to do a roaring trade among the sick who were to be pillaged or nursed according to circumstances. Calvin to his honour ordered the execution of these "poisoners," as they were called, to be as speedy as possible.

Dr. Gautier has adorned his book with reproductions of some scarce engravings of famous Genevese physicians, such as Jean Antoine Sarasin, du Chesne, de Hilden, Bonet, Tronchin (the friend of Voltaire), and Odier. The last named was educated in Edinburgh and at St. Thomas's Hospital and acquired some celebrity as editor of the "Bibliothèque Britannique" and as a prolific writer.

Walter Reed and Yellow Fever. By HOWARD A. KELLY, Professor of Gynecological Surgery, Johns Hopkins University. New York: McClure, Phillips, and Co. 1906. Pp. 293.

IN this interesting book Dr. Howard Kelly gives us a picture of the life and work of Dr. Walter Reed, one of the most talented of the medical officers of the United States army. He relates in an able way the scientific work which Dr. Reed accomplished and gives us a full history of the benefits which his talents and industry have conferred on mankind. Dr. Reed, it will be remembered, was cut down in the prime of his manhood and fell a victim to peritonitis following an operation for appendicitis, but not before his work had been singularly blessed. His remains are interred at Arlington on a beautiful knoll overlooking the city of Washington, where his wife has erected as a memorial a shaft of dark Quincy granite, five feet high, with an oblong bronze tablet which tells us that "He gave to man control over that dreadful scourge yellow fever." The wording of the whole inscription was selected by the Surgeon-General of the United States army and his staff. In a beautiful letter which Dr. Reed sent to his wife on Dec. 31st, 1900, he wrote of his work as follows: "Only ten minutes of the old century remain. Here have I been sitting, reading that most wonderful book, 'La Roche on Yellow Fever,' written in 1853. Forty-seven years later it has been permitted to me and my assistants to lift the impenetrable veil that has surrounded

[1] Christianismi Restitutio, Bk. v.

the causation of this most wonderful, dreadful pest of humanity and to put it on a rational and scientific basis. I thank God that this has been accomplished during the latter days of the old century. May its cure be wrought out in the early days of the new! The prayer that has been mine for twenty years, that I might be permitted in some way or at some time to do something to alleviate human suffering has been granted!"

While the members of our profession, both in the United States and abroad, have spared no exertions to show their satisfaction in the distinction which Dr. Reed conferred upon his profession, "and his friends and acquaintances, both medical and lay, have shown a generous and loving spirit of appreciation in the Memorial Association established by them to secure that some practical return should be made for his services to mankind," yet popular appreciation of the value of the work of the yellow fever commission has been, so says Major J. R. Kean, "singularly slow and imperfect." So far nothing has been done beyond the granting of a very modest pension to Dr. Reed's widow. It is Congress towards which American scientific men look to express their nation's gratitude, and that nothing has as yet been done is probably due to the ignorance on the part of its members of the real extent of the evils which the work has averted and of the practical benefits which it insures to the national prosperity. "It is partly with the hope of aiding in the dissemination of the necessary knowledge that this little book is sent forth into the world," for the author cannot but believe that if his countrymen only understand the subject in all its bearings they will find some substantial means of testifying their gratitude to the family of the man whose memory each and all should delight to honour. Dr. Kelly justly commends the courageous spirit of the brave men who submitted to the fomites experiments and to be bitten by mosquitoes which had bitten persons suffering from the disease. It would not be fitting if the volume closed without special mention of the men who were associated with Dr. Reed in his experimental work. "His was the master mind and he the guiding spirit," but his three associates —Dr. James Carroll, Dr. Jesse W. Lazear, and Dr. Aristides Agramonte—gave themselves to the cause with no less devotion; two of them suffered from the disease and one of them, Dr. Lazear, lost his life by it. At the end of the volume Dr. Kelly sketches the careers of these members of the commission with a discriminating hand. The book contains several portraits of Dr. Reed; one of them from a photograph taken in 1901 at the age of 50 years and another a reproduction of a photograph of the fine bust, by Hans Schuler, which adorns the library of the Surgeon-General at Washington.

We congratulate the author on his book which forms an affectionate memorial as well as a most pleasing biographical study.

LIBRARY TABLE.

X Rays in General Practice. By A. E. WALTER, Captain I.M.S., Superintendent of the X Ray Institute of India. London: John Lane. 1906. Pp. 175.—This is a small book intended for general practitioners and deals with the use of x rays in diagnosis and treatment. The author's experience has been gained chiefly in military work in India, so that the general tone of the work is military rather than civil. At the same time the case for the employment of x rays is given clearly and concisely without undue bias, and practitioners who have a leaning towards this subject, but not sufficient time to take it up exhaustively, will find the information in this book quite safe to follow. Chapters are given on every branch of the subject, including special instructions relating to radiography of the different regions of the body. In the section on Therapeutics the author makes some very sweeping claims for x rays, particularly with regard to their superiority over every other form of radiant energy in the treatment of lupus vulgaris. This is a point which is not proved; in fact, the treatment of this disease by means of Finsen's large lamp or the Finsen-Reyn lamp is in non-ulcerative cases to be preferred. In this connexion we may mention that Fig. 43, p. 94, has been misnamed, as it represents the London Hospital lamp and not "Finsen's light apparatus" as there stated. The volume is of a handy size and illustrated with several interesting radiographs which have been very well reproduced.

Lessons on Elementary Hygiene and Sanitation, with Special Reference to the Tropics. By W. T. PROUT, C.M.G., M.B., C.M. Edin., Principal Medical Officer, Sierra Leone. London: Waterlow and Sons. 1905. Pp. 159.—These lessons were originally given as a series of lectures; they have now been extended and illustrated so as to form an elementary text-book for the use of the schools of West Africa. They are specially printed for the colony of Sierra Leone. The author has adhered to the lecture form as being, in his opinion, the style best adapted to convey the facts of sanitation to the class for whom the book is intended in as simple and easy a manner as possible. The author hopes that his little book will be found to fill to some extent a gap which exists in dealing with the sanitary problems of tropical life. The book is divided into 14 lessons. Lessons 4 and 5 deal with the causes of disease, with germs, and the germs of special diseases. Lessons 6, 7, and 8 are devoted to the consideration of animal parasites, of malaria, its treatment and prevention, and of sleeping sickness, yellow fever, and of intestinal and other parasites. In other lessons food, water, air and respiration, the dwelling, clothing, and personal hygiene are all considered. The book is written in an interesting way and it is sufficiently illustrated. The information which this little volume contains, if really acquired in the schools, may do much towards making West African stations into healthy habitations.

JOURNALS AND MAGAZINES.

The Edinburgh Medical Journal.—The October number is entitled "Educational" and devotes an appendix of 36 pages to medical education. Several original articles are also contained in this issue. Mr. James Sherren contributes an important paper on the Surgery of the Peripheral Nerves, with tables of results obtained in various forms of nerve-anastomosis. Dr. W. A. Potts writes on the Feeding of Young Children, urging, among other points, that meat is not necessary for children; that eggs are better excluded from their dietary; and that the time for commencing tea and coffee is—never; and Dr. David H. Croom emphasises the value of formic acid in diphtheria as a cardiac stimulant, quoting figures to show its superiority to strychnine and similar drugs.

The Scottish Medical and Surgical Journal.—This journal also devotes attention in its October issue to educational matters, the only original article contained in it being a paper by Dr. A. McCormick and Dr. D. A. Welsh on Primary Sarcoma of the Stomach, which appeared previously in the *Australasian Medical Gazette* for July.

The Dublin Journal of Medical Science.—Two original communications are begun but not concluded in the October number of this journal, one by Dr. W. Langford Symes on Wasting Diseases in Children and the other on the Use and Abuse of Alcohol, by Dr. R. J. Kinkead. In the former the causes and symptoms of marasmus are discussed and it is noted, *inter alia*, that leucin and tyrosin sometimes appear

in the urine in such cases. In the latter we are glad to find that a few useful qualities are allowed to that much-abused substance ethyl alcohol, which is admitted to have some value as a food when administered in suitable cases.

Annals of Ophthalmology. Vol. XV., No. 1, 1906. St. Louis, Missouri, U.S.A.: Jones H. Parker. Subscription for four parts, issued quarterly, 18s.—This number of the *Annals of Ophthalmology* contains 13 original articles, of which six are devoted to accounts of particular cases—namely, a Case of Coloboma of the Macula, by Dr. W. E. Fischer of St. Louis; a Case of Amaurotic Family Idiocy, by Dr. Mortimer Frank of Chicago; a Case of Bilateral Lymphomata of the Lacrymal, Parotid, and Submaxillary Glands, by Dr. S. Lewis Ziegler of Philadelphia; a Case of Primary Tuberculosis of the Conjunctiva, by Dr. J. J. Thompson of New York; a Case of Subhyaloid Hæmorrhage, by Dr. James Moores Ball of St. Louis; and a Case of Bilateral Anophthalmos, by Professor G. Ovio. Sir William J. Collins contributes a lecture on the Lens in Health and in Cataract; Dr. Clarence Loeb of St. Louis gives the results of his Observations on the Development of the Primary Optic Vesicles in Necturus; Dr. Charles A. Oliver of Philadelphia gives a brief summary of the Inter-relationship of Binocular Fields of Colour Vision and Combined Areas of Astigmia; Dr. John Green, jun., of St. Louis supplies a Report on the Progress of Ophthalmology in 1905; Dr. Edward T. Reichart of Philadelphia describes a Schematic Eye which he has devised; Dr. George Suker of Chicago discusses the merits of Scopolamine and Morphine Anæsthesia in Ophthalmic Surgery; and finally, Dr. George Gould of Philadelphia writes a vigorous polemic against those who doubt the theory which he maintains that many affections of the general system are due to eyestrain and can be cured or alleviated by the use of glasses correcting errors of refraction which accompany such affections. This number of the journal contains in addition numerous abstracts from American, English, and foreign literature and also reports of societies.

MEDICINE AND THE LAW.

Fraud upon Medical Men.

THE case of a man sentenced at the Old Bailey under the name of Morgan to 20 months' hard labour should be noted by medical men. He pleaded guilty to obtaining by false pretences various sums of money from three different medical men, but eight cases might have been proved against him and he had been in and out of prison continuously for four years. In one instance, in which Dr. H. L. Eason of Guy's Hospital was his victim, he told a story to the effect that he had come to England as one of the Harvard eight, that he was related to Mr. Pierpont Morgan, that he had a brother who wished to enter as a student at Guy's Hospital, and the usual end to such a tale—that he had had his pocket picked, which was most inconvenient, as he had various places to which he wished to go and only a few pence with which to make the necessary journeys. We can only repeat, as we have done frequently before, that free libraries place at the disposal of the dishonest directories which supply them with useful particulars as to the educational antecedents of medical practitioners as well as of clergymen and others who have been at the universities, and that a little ingenuity will always supply a few details to complete the story as told by a well-educated impostor. The hint that cash is needed should be met by a little cross-examination, and possibly by recourse to the telephone or the telegraph by any who do not wish to run the risk of throwing away their sympathy and their money. At all events any such tale should awaken suspicion, and symptoms of suspicion will very soon be noted by an impostor, who in all probability will take an early opportunity to depart, perhaps expressing indignation that his fiction should not meet with acceptance. If not personally conducted to the door he will probably lay hands upon anything easy to remove and worth pawning.

The Sanitary Oath.

At the reopening of the Law Courts it will have been noted that the President of the Probate, Divorce, and Admiralty Division referred to the recent correspondence in the newspapers upon "Kissing the Book," and pointed out that in the courts of the division over which he presides printed notices call the attention of witnesses to the fact that they may be sworn as in Scotland should they desire it. These notices have existed for a long time and THE LANCET has called attention to them, but their effect when they are observed is diminished by the reluctance of many to make themselves conspicuous by asking for a special procedure to be adopted for their benefit. Attention has also been called recently to the provision of Testaments with celluloid covers at the Westminster county court. It is to be hoped that these will be frequently and effectively cleansed.

Anthrax in Kent: a Claim for Compensation.

At the Dover county court, before his honour Judge Shortt, on Oct. 24th, W. J. Jones, labourer, applied under the Workmen's Compensation Act for compensation for injury caused by his having contracted anthrax in the course of his employment with the executors of the late Mr. Broadley, Farthingloe Farm, near Dover. Mr. D. Cotes-Preedy, barrister, appeared for the applicant, and Mr. H. C. Dickens, barrister, for the respondents, who denied that the applicant had had anthrax or contracted it from any animal on their farm. On May 1st the applicant, who had been a butcher, was ordered to kill a sick cow. He stated that he noted the spleen to be greatly enlarged. On May 8th he killed and dressed a heifer which was also ill. The spleen was large and black and the other internal organs appeared inflamed. On May 9th he noticed two pimples on his right arm. On the next day he felt very ill and the arm had swollen, and on May 11th he saw Dr. C. A. Kent of Dover, who advised immediate operation. The pustules were accordingly excised by Mr. W. J. Best and antitoxin serum was also injected. For two days his condition was precarious but eventually recovery ensued. On cross-examination the applicant maintained that he was sure of the size of the spleen of the cow and asserted that he had touched no other animal elsewhere. Dr. M. Kirkby Robinson, medical officer of health of the East Kent joint district, who saw the applicant, stated that he was undoubtedly suffering from anthrax. On visiting Farthingloe Farm on May 12th he was unable to secure the spleen of the heifer but he removed a kidney. Mr. T. W. Cave, advisory veterinary inspector to the Kent county council, stated that one kidney and half of the other were sent to him. He found bacilli anthracis in the medullary portion of the whole organ. On cross-examination he maintained that he was quite sure of the identity of the bacilli though he had failed to get any result from inoculation experiments, which he attributed to the fact that degeneration of the kidney had set in. After medical evidence concerning the applicant's illness had been given, Mr. James Crowhurst, veterinary inspector for the home division under the Kent county constabulary, stated on behalf of the respondents that he had visited the farm on May 13th when he had seen half the carcass of a heifer presenting no signs of anthrax; he took half a kidney for examination purposes and found no bacilli. He did not consider the symptoms of the animal during life consistent with anthrax but said in cross-examination that he relied on the description of disease given to him by the Broadleys. Judge Shortt, in making an award in favour of the applicant for compensation as provided by the Act, said that it had been clearly proved that Mr. Jones had suffered from anthrax contracted from the only animals with which he had come in contact.

"Tablones."

In the High Court of Justice, Chancery Division, on Oct. 29th, a motion was heard before Mr. Justice Swinfen Eady arising out of a refusal by the Registrar of Trade-marks to register the trade-mark "Tablones" on the ground of similarity to another mark "Tabloids," the property of Messrs. Burroughs, Wellcome and Co. The Capsuloid Company (Limited), the managing director of which said that he had invented the word "Tablones," made the application to reverse this decision of the Registrar of Trade-marks, but Mr. Justice Swinfen Eady upheld the Registrar, saying that he was satisfied that there was that resemblance between the words "Tablones" and "Tabloids" as is, in the words of the statute, "calculated to deceive."

THE LANCET.

LONDON: SATURDAY, NOVEMBER 3, 1906.

The Medical Department of the Local Government Board.

THE annual report for 1904–05 of Mr. W. H. POWER, C.B., F.R.S., the medical officer of the Local Government Board, contains, as usual, material of great interest both from an epidemiological and an administrative point of view, but as we have already noticed in our columns several of the reports of the medical inspectors which the volume contains we propose in this article to give a general summary of the work of the medical department as a whole. The first point which impresses itself upon the reader is what may be termed the growing Imperial importance of the department; its work relates not to England and Wales alone but to questions involving health in India, the colonies, and elsewhere. There is, too, a tendency for the inspectors to undertake more extensive investigations than has always been the case. The vast possessions of Great Britain in all parts of the world expose her in a peculiar degree to criticism by foreign powers, in that the practice of the mother country in the matter of exotic diseases, such as plague, cholera, and yellow fever, is not as yet participated in by all parts of the Empire. It was, indeed, want of uniformity in this sense which led to Dr. THEODORE THOMSON, one of the inspectors of the medical department, being placed at the disposal of the Colonial Office in order that he might advise a conference of representatives from the West Indian islands which was held at Barbados on the subject of "quarantine" regulations—a mission which resulted in a satisfactory code of regulations, Dr. THOMSON receiving a decoration for his services. Dr. RALPH W. JOHNSTONE, another of the medical inspectors, served on a commission appointed by the Admiralty, the War Office, and the civil government of Malta for the purpose of studying, under the superintendence of the Royal Society, the general sanitary circumstances of the Maltese Islands, with special reference to the prevalence of Malta fever therein. Dr. R. BRUCE LOW, one of the assistant medical officers of the Board, contributes to the volume under review a summary of the prevalence of plague and cholera throughout the world and the importance of this study from an Imperial standpoint may be inferred from the fact that as regards plague in India during 1904 the deaths were 245,525 in excess of the figures for the previous year.

As regards the larger questions affecting the health of Great Britain alone the medical department has rendered valuable service through its members. The medical officer himself has continued to serve on the General Medical Council and on the Royal Commission on Sewage Disposal. Dr. H. FRANKLIN PARSONS, the senior assistant medical officer, acted as the Board's representative upon the Committee of Advice with respect to the geological survey and he also served upon an Inter-Departmental Committee appointed in the spring of last year by the President of the Board of Education to consider the all-important question of the medical inspection of school children, whilst Dr. BRUCE LOW took part in framing the report of the committee which had considered the question of the payment of public vaccinators and the expenditure on vaccination generally. He is, too, a member of the committee appointed by the Advisory Board of the Army Medical Service to inquire into the prophylactic and therapeutic value of current methods of immunisation against enteric fever. With reference to other special work carried out by members of the medical department mention may be made of the study of the sanatorium question by Dr. H. T. BULSTRODE and the preparation of a detailed report by him upon this difficult problem, conferences presided over by Dr. R. J. REECE with the view of promoting the harmonious coöperation of port sanitary authorities and the Customs officers in dealing with seaborne infection, and an inquiry by Dr. E. P. MANBY upon the housing of milch cattle in different parts of England and Wales. In addition to these special inquiries there were the usual investigations into local outbreaks of disease and into the maladministration of district councils. As regards the auxiliary scientific investigations carried out under the direction of the medical department, Dr. E. KLEIN, who has been studying for some years past the different methods by which rats may become infected by plague, is inclined, as the result of recent experimental work, to attribute to infected food a greater share than has formerly been regarded as likely. He found that although fresh cultures of the plague bacillus failed to induce plague when ingested by the rat, cultures which had undergone a certain amount of drying, and around which there had been formed, as it were, a protective envelope capable of resisting the influences of the gastric juice, promptly led to plague in that rodent and after death Peyer's patches in the lower ileum were found to be swollen, partly necrosed, and packed with plague bacilli. These results, which were confirmed by subsequent investigations on guinea-pigs and mice, suggest the importance of an investigation of the precise condit on of the intestinal wall in persons who have died from plague. Dr. A. C. HOUSTON has carried out an investigation which has been called for during many years past in the interests of the correct interpretation of the bacteriological examination of water. He has found that the excrement of cows contains bacillus coli-like microbes and bacillus enteritidis sporogenes indistinguishable by the tests employed by him from apparently similar organisms found in human fæces. Dr. HOUSTON, however, holds out hope that by a careful scrutiny of streptococci a differential test between animal and human excrement may be practicable.

One of the investigations conducted by Dr. SIDNEY H. C. MARTIN consisted of a study of albumoses and other chemical products obtained by the growth of bacillus enteritidis sporogenes in different media, and evidence was obtained indicating that the rapid liquefaction which ensues in solid blood serum during the growth of this bacillus is due to a powerful proteolytic ferment produced by the

bacillus. Dr. M. H. GORDON has continued his interesting investigation on air-borne infection and has endeavoured to ascertain how far any of the numerous micro-organisms present in the skin can be regarded as diagnostic of human beings and he has discovered a staphylococcus which is likely to prove useful in this sense. This brief sketch of the work done in the medical department must suffice, but we cannot help, in conclusion, expressing our surprise that the inspectors of this department, who are performing such admirable services for the State, should be remunerated on a materially lower scale than any other inspectors under the Board. We commend this remarkable anomaly to the attention of Mr. BURNS.

"The Profession" in Public Estimation.

HALF a century's experience as clinical teacher or consultant supplied Sir DYCE DUCKWORTH with matter for much seasonable and illuminative comment in the address which he delivered to the Royal Medical Society of Edinburgh on Oct. 26th. His audience consisted mainly of students in the later stages of their curriculum and the subject on which he discoursed to them was of immediate interest as dealing with the reception awaiting them on their entry into professional life. That from a business point of view they would earn an honourable livelihood he never doubted, but that they would, as members of a liberal calling, be held in the esteem in which their fathers lived and moved he was inclined to question. "Is medicine regarded nowadays with the respect due to it?" "No," is Sir DYCE DUCKWORTH'S answer, and thereupon he proceeds to show the cause, or causes, of this "decline in professional dignity." It is partly, he thinks, the medical man who is to blame and partly the general public. As to the former, his education before matriculating in medicine is not so good as it ought, or even as it used, to be. Thanks to the competitive spirit everywhere prevalent, the youth is prematurely indoctrinated in subjects which "pay" or which may be supposed to stand him in good stead in his purely professional curriculum to the neglect of those studies which inform the developing mind, which evolve the faculties in their organic interdependence, which—as one out of many results—evoke and refine the taste. "Cherish the Beautiful, the Useful will take care of itself," exclaimed the great HUMBOLDT. "Foster the Useful and leave the Beautiful severely alone," is the counter-cry of the "modern side" in many a preparatory school. The Nemesis of this educational policy appears peculiarly marked in the medical student's case, having forfeited prematurely whatever chance he had of informing his faculties by contact with the immemorial masters of thought and style, and realising, as he often does when too late, how poor the substitute provided him in the fleeting, comparatively immature literature and art of the day. Under such inspiration the general public are likely to take him at his own estimate, as a functionary "useful" according to his lights but marred by the limitations of one who has been schooled in what "pays" or whose knowledge of his "art"—to quote SWIFT'S famous distinction—may become inferior to that of his "trade." Having amply and effectively shown how this utilitarian view of education must leave its deteriorating mark on all subjected to it in practice, Sir DYCE DUCKWORTH draws his hearers' attention to the general public and entertains them to a "march past" of the *idola* (in the Baconian sense) to which the said public bows the knee.

Cheap literature, ministering to a false economy, supplies the lay reader with just enough of that "learning" which is "a dangerous thing," till "every man his own doctor" has become the popular equivalent of "every man his own lawyer"—with a fool for his client in the latter case and a dupe for his patient in the former. Society nowadays, particularly that section of it characterised by a great Victorian statesman as "the lounging class," is prone to read only what suffices to tickle its unintelligent curiosity or its love of anything novel and on the strength of such guidance to go in for the "science" miscalled "Christian" or to repair to miraculously healing waters, serenely ignorant of its thereby perpetuating the tradition of that "Temple therapeutic" which was discredited in Athens more than two millenniums ago. It is the same popular craving for the "irregular" and the "novel" that, according to Sir DYCE DUCKWORTH, encourages the never-ending "announcement of alleged discoveries and cures, or of new methods of treatment and diet emanating often from men void of all clinical experience" and for the most part "hurried out of German laboratories, till after occupying attention for a few weeks they come, naturally enough, to nothing; to be reckoned, however, as failures in the field of legitimate medicine." What between the utilitarian theory which moulds the preliminary education of the young medical man and a general public feverishly enamoured of novelty and lavishing its attention and its largess on every *idolum* of the hour, the profession can hardly be expected to retain the dignity and the consideration bequeathed to it by a better inspired tradition. For this state of things Sir DYCE DUCKWORTH suggests no remedy; nor, indeed, would it be easy to devise any other than a reversion to sounder views of education and a steady insistence on the nobler ideals of life at present out of fashion. But he has done good service by clearly and impressively defining the adverse influences besetting society and the profession alike, and he may be congratulated on having added an opportune and salutary supplement to the "Vulgar Errours" of Sir THOMAS BROWNE.

Urban Infant Mortality in the Past Summer.

THE recent National Conference on Infant Mortality undoubtedly stimulated public interest in this important branch of public health administration. It will be well, therefore, to examine the Registrar-General's statistics bearing upon the rate of infant mortality during the past summer in the 76 large towns dealt with in his weekly returns, with a view to ascertain whether this increase of public interest in the subject has had any beneficial results. Infant mortality in the summer quarter of the year is to a great extent governed by meteorological conditions, which undoubtedly are among the main controlling factors of fatal infantile diarrhœa. The

Registrar-General's statistics almost invariably show, during a long series of years, that a high mean temperature in summer accompanied by a small rainfall causes a high rate of mortality from diarrhœa and an exceptionally high rate of infant mortality; whereas in a cool summer with abundant rain the rates both of diarrhœa fatality and of infant mortality are, with scarcely an exception, very considerably below the average. During the three months ending with September last the mean temperature of the air at the Royal Observatory, Greenwich, was 62·5° and was 1·3° above the mean temperature in the corresponding period of the ten years 1896–1905; it was, moreover, higher than in any of those ten summer quarters except 1898 and 1899, when the mean temperature was 62·7° and 63·0° respectively. During the three months of last summer 3·78 inches of rain were measured at the Royal Observatory, Greenwich, on 26 days; the average amount in the ten preceding summer quarters being 6·03 inches, measured on 34 days. Indeed, during the 46 years 1860–1905 the mean temperature of last quarter was only four times exceeded; and a lower rainfall was only three times recorded. The meteorological conditions prevailing during last summer, therefore, undoubtedly predicated a high rate both of diarrhœa fatality and of infant mortality, which the Registrar-General's weekly returns prove to have been realised. In 76 of the largest English towns, with an aggregate population of nearly 16,000,000, the deaths of no fewer than 23,065 infants under the age of one year were registered during the 13 weeks of last quarter, equal to 209 per 1000 of the births registered during the same period. In the four preceding summer quarters the rate of infant mortality in these 76 towns had successively been equal to 146, 159, 229, and 186 per 1000. In three of these four years the summer rate of infant mortality was therefore considerably lower than in the past quarter, whereas in 1904 the rate exceeded that recorded last quarter by 20 per 1000. It should, however, be pointed out that in the summer quarter of each of the four years 1902–05 the mean temperature was considerably lower and the rainfall considerably higher than in last quarter. Indeed, the rate of infant mortality last quarter, high as it was (209 per 1000), compares favourably with the rate in 1904 (229 per 1000), when the mean summer temperature was 1·3° lower and the rainfall 1·1 inches higher than in this year. Can this improvement be attributed to increasing interest in this matter on the part of sanitary authorities and the general public? When the statistics of the 76 towns are considered separately and individually compared the need for this awakening interest is sadly patent and the comparison suggests the need for investigation to explain some startling contrasts. Huddersfield and Halifax are two neighbouring Yorkshire towns which are of almost equal population and in which the proportion of married women engaged in definite occupations is almost equal; and yet while the rate of infant mortality last quarter in Halifax did not exceed 110 per 1000, it was in Huddersfield just double, or 220 per 1000. The strong interest in this subject shown by the mayor and the corporation of Huddersfield and the exceptional measures taken by them to cope with excessive infant mortality increase the difficulty of explaining this contrast. It is satisfactory to note that in London the rate of infant mortality did not exceed 191 and was only 5 per 1000 above the rate in the corresponding quarter of last year under far more favourable meteorological conditions. In the suburban district of Hornsey, however, the rate did not exceed 94 per 1000, whereas it was equal to 202 in Croydon, 240 in West Ham, 222 in East Ham, and 207 in Walthamstow, all more or less metropolitan suburban districts. In Brighton the rate did not exceed 140 and in Bournemouth it was only 137, and yet it was 194 in Hastings and 267 in Yarmouth. Can the sanitary authorities of these watering-places throw any light upon these contrasts? The highest urban rates of infantile mortality during the past summer quarter occurred in the following towns: Wigan, 263; Norwich, 265; Hull, 275; Aston Manor, 297; Stockport, 301; and Burnley, 306. Such excessive waste of infant life as these rates indicate is discreditable alike to the sanitary authorities and to the parents in these towns, as it is undoubtedly due in great measure to distinctly preventable causes. Notwithstanding these high rates, and rates nearly as high in other towns, if due allowance be made for the effect of the high mean temperature and the deficient rainfall, the rates of infantile mortality last quarter in these 76 towns (containing nearly half the population of England and Wales), speaking generally, compare favourably with those recorded in past summer quarters.

Annotations.

"Ne quid nimis."

THE LOCAL GOVERNMENT BOARD AND FOOD LEGISLATION.

WE are glad to see that the Public Health (Regulations as to Food) Bill, which was introduced by Mr. John Burns into the House of Commons shortly before the summer adjournment, and read a first time, is included among measures with which the Government intends to proceed during the present autumn sitting. The Local Government Board, under the Public Health Act, 1896, already is empowered to make regulations for the purpose of the prevention of disease, especially as regards exotic disease, such as cholera and plague, and the regulations made under this Act may provide for any necessary action being taken by the Board of Customs and their officers as well as by other authorities. Mr. Burns's Bill proposes to extend these powers so as to enable regulations to be prescribed for the prevention of danger to public health when it arises from the importation, preparation, storage, or distribution of articles of food. It is obvious that powers of this kind ought to be possessed and exercised when necessary by the Government department which is responsible for the public health administration of the country. Last week the President of the Local Government Board referred to the advantage of regulations such as the Bill proposes when questioned in the House of Commons as to the importation of putrid meat and the want of uniformity in the system of food examination at the different ports concerned. Without undue insistence on Chicago, many other instances suggest themselves in which it would be of the greatest advantage to the community that the importation of unwholesome or dangerous foodstuffs should be dealt with by simple regulations of general application.

ONE OF OUR PREDECESSORS.

A CORRESPONDENT has drawn our attention to one of the earliest of the predecessors of THE LANCET—the quarto-sized journal *Medicina Curiosa*, of which the first and apparently only number was published on June 17th, 1684.

The full title of the short-lived periodical is *Medicina Curiosa, or a Variety of New Communications in Physick, Chirurgery, and Anatomy, from the Ingenious of Many Parts of Europe, and some other Parts of the World.* It is 54 pages long and was printed for Thomas Basset at "The George" in Fleet-street. The contents of the journal comprise some six articles, of which one is "An Introductory Account of a Tract on the Organ of Hearing," by Du Verney of Paris, while another is "An Entire Translation of the Third and Last Part of the Said Tract." Article 3 is "An Account of a Book containing the Anatomy of a Muscle, setting forth its Elegant Structure and Admirable Motion. Written in Latin by Antonius de Heide." Another article deals with the same anatomist and another with the sense of hearing and attempts to improve it. The unknown editor's preface contains an outline of policy. Speaking of the "Improvements in the Art of Physick," he says, "I thought it might not be an unacceptable labour for me, if I undertook constantly to give Accounts both of what is printed in order to its advancement by the direction of publick Societies, instituted for the advancement of Learning, and likewise what is contained in the Books of Physick daily set forth by particular men. I design to be pretty short in the Accounts of the Theory, and larger upon the practical part, the considerations of the former not being extendible to as many Persons as the latter may: not that I would be so far guilty of a Culpepperism as to advise all Persons to be their own Physicians, yet sometimes haply in long Diseases, when the best Methods have effected little, it may be some satisfaction to sick mens minds to peruse a Book of Physick; and as it is hard to perswade them from being doing, if they make an adventure, they have this maxim to uphold them, that Chance and Confidence sometimes have perform'd well, when Art and Prudence have fail'd. Whatsoever I shall write in pursuance to this design, I shall always submit to the *London* Colledge of Physicians, whom the World will own for Great and Meet Judges in matters belonging to their Art. This Book is mark'd Number I. of this Work, it being intended that the matter shall be continued, and that the Publick shall receive more numbers of them at fit times, according as this may find acceptance." No other work of this kind appeared in Great Britain until 1733, the year of publication of *Medical Essays and Observations*, which was issued serially in Edinburgh till 1744.

THE QUALITY OF THE METROPOLITAN WATER-SUPPLY.

THE results of the chemical and physical examination of the water supplied by the Metropolitan Water Board during the year 1905 are of special interest because of the fact that for the first time the water from the large Staines reservoirs has been systematically used at two of the district works. Dr. T. E. Thorpe in his report contained in the Thirty-fifth Annual Report of the Local Government Board, the publication of which we referred to last week, states that the quality of the water was undoubtedly improved by the introduction of the new storage. During the past year the West Middlesex and Grand Junction supplies occupied for the first time the first position as regards organic purity amongst Thames-derived supplies, this improvement being due to the fact that these works have been able to make use of the water from the large reservoirs at Staines. The water drawn from these reservoirs shows a constant quality. Comparing the Staines water with that taken from the Thames on the same dates on two occasions in August and September it was found that the proportion of organic matters in the stored water was a little greater than that in the raw river water, but, on the other hand, in March and November, when the Thames was in bad condition, the reverse was markedly the case. By attention to the state of the raw water and judiciously selecting the times for taking water Dr. Thorpe says it should be possible to fill the reservoirs with supplies containing on the average less organic matter than is found at present. Storage diminishes hardness by about 20 per cent., the nitrates disappear, and certain changes take place in the organic matters. From a general consideration of the whole of the analytical data and the statistics relating to the rainfall and flow of the Thames it is evident, reports Dr. Thorpe, that the year 1905 was, on the whole, favourable to the operations of the Water Board. The quality of the water was at times disturbed by floods. The maximum pollution in both Lea and Thames supplies is, however, declining, a result which is attributed to the "progressive provision and utilisation of stored water at the Metropolitan works."

THE ITALIAN IMMIGRANT IN NORTH AMERICA.

"PAINFULLY pathetic," writes an Italian contributor, "is the picture, just presented to the world by Dr. Antonio Stella, of the deterioration of his countrymen in the great cities of the American Union, to which for years past they have been flocking in quest of remunerative work. At the recent Congress for the Prevention of Tuberculosis at Milan Dr. Stella was one of the most authoritative and cogent interlocutors, and once more, ere returning to New York to resume his post as vice-president of the Society for the Protection of Italian Immigrants, he has made his voice heard in behalf of the sons and daughters of Italy whose fate in the Empire city and other western hives of population is at length appealing to the home Government as more than ripe for strenuous and systematic intervention. The Italian youth of both sexes who before their twenty-first year in the case of females and their twenty-fifth year in that of males leave the rural districts of the motherland for the United States and pass at once into industrial or factory life at that critical period of their development are doomed to rapid deterioration, and in the case of quite one-third of them to premature death. To say nothing of anæmia in every form, tuberculosis, in Dr. Stella's experience, reaps its greatest harvest of victims amongst those who emigrate during, or a little after, the period of adolescence. Out of 800 cases of tuberculosis collected from the hospitals and infirmaries of New York, in addition to others occurring in his private practice, Dr. Stella found that 531 had landed from Italy at ages between 14 and 21—landed, be it noted, in good health. The mean period of sojourn in the city up to the first symptoms of malaise was from three to six years—the minimum period declaring itself among girls employed in tobacco manufactories, or as itinerant seamstresses, or as regularly engaged dressmakers. For these latter three or four years of life in the establishments or 'tenement houses' of New York sufficed to make them fertile media for the propagation of the Koch bacillus. The first symptoms in well-nigh every case were those of anæmia and general decline, diminution of weight, progressive languor, and so forth, long before the pathogenic signs, cough and hæmoptysis, emerged in characteristic form. This, says Dr. Stella, is highly significant, as showing how the oligæmia at that age represented in nearly every case the pre-tuberculous condition; all the more significant that scarcely any of them showed a transmitted phthisical taint. The deadly surroundings in which they lived and laboured, the insanitary and overcrowded 'accommodation,' the long hours spent in the factories, the thousand and one privations imposed by poverty and the zeal for wage-earning, all this without adequate nutrition proportioned to the drain

on the vital powers at a period of growth which is biologically the most important in life,—all this, adds Dr. Stella, explains irrefragably the rich harvest reaped by tuberculosis among so many young Italians. The bacillary invasion, in fact, is a natural 'coincidence' in their already deteriorated organisms—a 'coincidence' revealed in the circumstance that the period of greatest activity and diffusion of tuberculosis (15–45 years) corresponds exactly with the age of the great majority of immigrants from Italy. Again, in the case of Italian children born in America or who have landed in infancy the predominant signs of degeneration are seen in 'tuberculosis ossea,' or in tubercle in the glands and peritoneum; while from 15 years of age to 30 it is the pronounced oligæmia leading up to pulmonary tuberculosis, often of the miliary type, which claims the largest quota of victims. On the other hand, after the period of maturity and precisely among immigrants over 30 tuberculosis is less frequent, the signs of organic deterioration being those of the cardiac group, classed under 'exhaustion.' Landing with an abundant stock of health and vigour due to an agricultural life reinforcing a robust constitution, the immigrant who has passed his thirtieth year, even when applying himself to occupations notoriously insanitary or pernicious, may present a florid appearance difficult to be reconciled with the surroundings of filth and squalor in which his work-a-day lot is cast. But even among such cases tuberculosis, whether pulmonary, genito-urinary, peritoneal, osseous, or other, often declares itself among the general signs of physical deterioration, particularly among women. And here Dr. Stella diverges into a most interesting comparison between the sexes in their response to the degenerative ordeal which they have to undergo—showing particularly how the effects on the female react perniciously on the offspring. 'I do not hesitate to affirm,' he says, 'that the great prevalence of rickets among the children of our immigrants is due not so much to insanitary conditions after birth as to the deep-seated degeneration of the women during pregnancy, degeneration caused by fatigue in the erect posture and by alimentation deficient in the proteids and fats continued without change during the period of lactation.' The society above referred to, of which Dr. Stella is vice-president, is indeed coöperating not a day too soon with that other institution, also under Italian superintendence, for rescuing the young immigrants from a life of labour in the great cities and transferring them to fields of work more in keeping with their antecedents and capacities—namely, the 'Ufficio gratuito di Collocamento al Lavoro.' Both have peculiar claims on the support of the home Government. Both are fortunate in possessing so able and so devoted an advocate as the *medico Italo-Americano* to whom we are indebted for the pathetic, not to say tragic, picture of the young Italian immigrant—

> 'Before whom lies a road of toil
> With his grave cut across.'"

THE LAMBETH MUNICIPAL MILK DEPÔT.

THE Lambeth municipal milk depôt is situated at 66 York-road, Waterloo-road, and was opened to the public on Feb. 12th last. In his report on the first six months of its working Dr. Joseph Priestley, the medical officer of health of the borough, states that 40,282 bottles of milk were distributed during that period—namely, 32,679 to the general public and 7603 to the Poor-law guardians. The milk so distributed represented the daily feeding for varying periods of a total of 100 infants and children belonging to the poorer classes and with very few exceptions much below the average as regards bodily health at the time of commencing the milk. The infants and children were sent to the milk depôt by medical men, hospitals, charitable organisations, the board of guardians, and various private individuals. Previously to using the depôt milk they had been fed upon all sorts of improper foods, such as condensed milk, solid food suitable only for adults, white of egg mixed with brandy, and cow's milk mixed with barley water. Dr. Priestley considers that the milk depôt has been the means of saving a large number of infant lives which may be estimated at the proportion of not less than from 97 to 182 per 1000. He therefore recommends that branch (distributing) depôts should be opened so as to give all ratepayers and others living within the borough an opportunity of obtaining this milk when required by their children.

THE REFORM OF LUNACY ADMINISTRATION.

THE Royal Commission on the Care and Control of the Feeble-minded has been intrusted, by an extension of its terms of reference, with the additional duty of inquiring into the constitution, jurisdiction, and working of the Commission in Lunacy and of other lunacy authorities in England and Wales, and into the expediency of amending the same or adopting some other system of supervising the care of lunatics and mental defectives, and of reporting as to any amendments in the law which should, in its opinion, be adopted. The *personnel* of the Royal Commission as at present constituted was well chosen for its original purposes, but all who are conversant with the many and important matters introduced by the extension of the reference will feel that more members must now be added to the Commission. In our opinion, at least three more members are required, two medical and one lay, and they should be thoroughly conversant with asylum administration and familiar with the various phases of questions that have for many years been discussed in medical and official circles.

MATERNITY CHARITIES.

IT happens not infrequently that inquests have to be held in the case of newly born babies dying before they have been seen by a registered medical practitioner when the mothers have been attended by unqualified students in the maternity department of one of the large London hospitals. This, of course, entails a considerable expense to the country in the payment of fees and other expenses. Theoretically it should be impossible for such an occurrence to take place. The general rule in most maternity charities is that in the case of any danger threatening the life of the mother or the child the obstetric assistant, who must be a registered practitioner, must be sent for. As in all cases of difficult or complicated labour he is already in attendance, it does not often happen that the mother or the child dies in his absence. Cases must, however, occur occasionally in which the newly born child succumbs before there is time to obtain the attendance of the obstetric assistant. Such an unfortunate event is not confined to the cases attended by students, it is just as likely to occur when the patient has only had the services of a midwife. It is impossible to avoid the occurrence of such an accident from time to time and we do not see how any practical means can be taken to insure that it shall not occur. The question naturally may be raised whether all the women who are attended gratuitously in these hospital maternities are really not in a position to pay the fee of a registered medical practitioner. It is likely that there is some abuse but we do not think that it is very great. In most instances there is a fixed wage limit, beyond which letters entitling the bearer to the services of a student are not issued and doubtful cases are generally investigated by an inquiry officer or a nurse. We imagine that this department of our large London hospitals is but seldom abused. At the same time the knowledge that such assistance will be forthcoming when the time of

her confinement arrives acts as a direct encouragement to improvident mothers to make little or no provision towards the expenses of their illness. This want of thrift, too, is still more likely to be fostered by the further knowledge that in some at any rate of these charities there exists a Samaritan fund by means of which it is possible to give women substantial help in the provision of clothes for the baby and further in providing them with the extra nourishment which they cannot afford to obtain. We are afraid that the charge of pauperisation might be imputed to some at least of these charities and that in the granting of food, clothes, and other help there is only too often a good deal of abuse. Such charity especially requires careful supervision and it should not be left to the discretion of an obstetric assistant to recommend or not to recommend as the case may be. He is not the most suitable person to detect fraud in these matters. The necessity for the occasional holding of inquests in the case of sudden death of the baby is, we fear, impossible to avoid, but that the charity should not be abused should be within the power of any well-organised institution to prevent. It is possible that in hospitals where the number of maternity cases is not really large enough for the number of students to be trained the authorities may be inclined to wink rather at cases of slight abuse. It is more likely, however, that such cases will occur in the practice of smaller institutions, more especially those in which the training of midwives is undertaken. The matter is one which certainly calls for the attention of all those who have the supervision of such charities.

SOAP, ANCIENT AND MODERN.

THE annotation in THE LANCET of Oct. 20th, p. 1084, under the above heading has drawn some interesting observations from certain correspondents, amongst whom are a well-known medical man and a long-established and well-reputed firm of soap-makers. The former says that some two years ago he went into the soap bill of one of our largest hospitals with the idea of suggesting a considerable saving. He found that a large quantity of soft soap was being used which contained a considerable percentage of water, and that this of course amounted to paying a very high price both for water and for soap. He suggests that the best and most economical soap for the purpose is dry soap powder, especially when used in conjunction with a water softener or with borax. 40 tons or so of soft soap, he adds, were used some little time ago at the launch of a new Cunarder, "but they who manage such things would never think of paying the price hospitals pay, nor do railway companies or hotels." The firm of soap-makers referred to point out some of the disadvantages which the public has been under for a good many years in using a soap which is in all respects inferior to the genuine old tallow soap. In the days of tallow soap they hold that linen suffered less than it does now for reasons which they give. It would appear that in order to make an oil soap hard enough to form a bar it is necessary to introduce into it a large proportion of cocoa-nut oil or palm kernel oil. These two oils hitherto have formed the basis of the so-called "rapid washer soaps." Cocoa-nut or palm kernel oils absorb a much larger percentage of caustic alkali than does tallow and so it is evident that the rapid detergent properties of these soaps are due principally to the excess of chemicals which they contain. "It seems to us, therefore, time to send a warning note to the public to induce them to return to the good old-fashioned soaps of their fathers, soaps which washed but did not destroy the clothes or irritate the skin, and although it is claimed that the oil soaps can be used with less labour their destructive properties should not be lost sight of." While on this subject we should like to ask why the most refined of all soaps—namely, olive oil soap—unless it is specially asked for, is hardly ever supplied to the public. One difficulty at least will very shortly have to be faced by the soap-makers who employ cocoanut oil and palm kernel oil for the preparation of the rapid-cleansing variety of soaps, and that is that these oils are being very largely used for edible purposes and there can be little doubt that modern ingenuity is such that they even masquerade as butter. It is probable, therefore, that this fact will tend to raise the price of these oils unless a cheaper substitute is found. Such a substitute has not yet been discovered. If it had the chances are that the present "soap combine" would not have been suggested.

THE QUESTION OF AUTONOMY IN THE SCOTTISH UNIVERSITIES.

IN Scottish University circles it has for some time been a subject of complaint that the system of control exercised by the State over the four universities aims too much at uniformity of academic methods and procedure. As things are the universities feel that they have but little power of initiative in such matters as modifications of a curriculum or the creation of a professorship or lectureship, and many reformers believe that restraints of this description are prejudicial to the interests of those seats of learning. The governing bodies of each University are three in number—namely, the University Court and the Senatus which consist mainly of the professors, and the General Council which consists of the whole body of graduates and meets only at long intervals. As mentioned by our Edinburgh Correspondent on p. 1247 of our present issue, attention was directed to the subject at a recent meeting of the General Council of the University of Edinburgh and although the questions at issue are not connected with medicine more than with any of the other faculties of a university, it so happened that the prospect of arrangements for advanced instruction in pharmacy and dentistry was used as an illustration. It was stated at the meeting that each petty alteration, such as the inclusion of a new subject in a curriculum or the reduction of the number of lectures on a subject, necessitated a fresh ordinance in accordance with the Act of 1889. This Act required compliance with a tedious and complicated procedure—namely, the preparation by the University Court of a draft ordinance; its submission to the General Council and the Senatus for opinion; the promulgation of the ordinance to the other Scottish university courts which might within two months lodge objections with the Privy Council; a report from the Universities Committee of the Privy Council; and the lying before Parliament for 12 weeks of session before Royal approval can be given. A year might thus be consumed in the passing of an unopposed ordinance, and four years have been spent in trying to get through an opposed ordinance which has not yet been passed. The circumlocution round the other universities and the Privy Council and Parliament was *ex hypothesi* to enable the State to exercise control over the universities. While the Scottish Universities have much in common, they also have many points of difference due to the accidents of their origin and the necessities of their environment. A faculty or a subject might be fully developed or equipped in one university and might only partially exist in, or even be absent from, other universities. The party of reform in Scotland feel that their grievance is intensified by the fact that in England, with one exception, the universities, both old and new, have practical autonomy. In the case of the University of Birmingham, for instance, the Royal Charter creates a court of governors about 300 in number, whose duties are legislative. Administration devolves on a council of about 24 members. Scheduled to the charter are statutes

of the University dealing with the more organic and constitutional parts of the system. Such statutes may be altered or added to by the court of governors and become law when allowed by the Privy Council. No notice requires to be given to anyone. The council may propose or draft statutes to be made by the court of governors. Ordinances may be made by the council and become law when sanctioned by the court of governors. These ordinances may deal with finance, the privileges of graduates and undergraduates, degrees, examinations, emoluments of professors, and similar details. Moved by these arguments, the meeting of the General Council of the University of Edinburgh accepted as a practical basis of discussion a proposal to create a legislative council for each of the four Scottish Universities, this council to have power to alter and to make ordinances.

THE WORKING OF THE SALE OF FOOD AND DRUGS ACTS.

In the thirty-fifth annual report of the Local Government Board we are glad to note the statement that the local authorities of districts in which the number of samples submitted for analysis was unduly small have been urged by the Board to become more active in carrrying out their duties under the Acts. We have again and again referred to this want of activity shown by local authorities in this matter and year by year the fact is constantly illustrated in the official returns published in the annual report. Again, in some cases the reports of analysts have shown that for some successive years no adulteration has been detected and the Local Government Board has at last suggested that possibly the system of sampling by persons known to vendors was at fault. In one town where this was the case the town council altered the method of sampling, with the result that out of 131 samples purchased for analysis in the three years following as many as 16, or over 12 per cent., were condemned. It must be admitted that the work of detecting offenders is becoming more difficult every year and the only way to meet this difficulty is by strengthening the administrative machinery. The inspector must give up his official buttons and employ agents in the plainest clothes. Even then the law may be defeated. At Fulham, for instance, it was evident that some tradesmen were careful to supply a genuine article to any chance customer who might prove to be acting on behalf of the inspector but reserved their adulterated goods for regular customers. This was proved, because at certain shops the inspector's deputy was at first always supplied with genuine butter, but when after several visits he became known as an ordinary customer he was then supplied with margarine. It is a pity that "customers" do not more often submit samples to analyses, but then there is the difficulty of complying with the requirements of the Act in regard to the formula to be observed at the time when the purchase is made. It is at all events a significant fact that over 39 per cent. of the articles obtained by private purchasers proved to be adulterated, whereas the proportion of adulterated samples taken in the official way was 8·2 per cent. Of 86,182 samples analysed during 1905 only 214 were submitted by persons other than officers acting for the local authorities. Milk continues to be the chief article subjected to tampering and, as the Local Government Board observes, it is unsatisfactory that the rate of adulteration of milk for the whole country which in 1898 had been reduced to 9·9 per cent. should not in any of the subsequent seven years have fallen below 10 per cent. There can be little doubt that the extent of actual adulteration is greater than this, for numbers of the samples submitted are in quality perilously close to the official limits and far below the average quality of good milk. In regard to butter, there are undoubtedly on the market, as we have pointed out before, comparatively cheap substances "invented by ingenious chemists abroad (we are quoting the Local Government Board report) which when judiciously mixed with genuine butter cannot apparently be definitely detected by any process of chemical analysis hitherto employed." An annotation in THE LANCET entitled "Science in the Service of Fraud" drew special attention to this matter. The butter trade is about as corrupt as it can be and fresh legislation is badly needed to stop the subtle ways of scientific rogues. Another point to which we would like to call the attention of our legislators is the increasing expedient adopted by many tradesmen of exhibiting notices in their shops that they do not guarantee this or that article to be genuine or pure. Very often these notices are in an obscure place and often they are unreadable because the type is too small to be read at a distance. If this system expands much more the Sale of Food and Drugs Act will be rendered practically inoperative. The purchaser in our opinion should be able to demand a pure or genuine article and the seller should not be allowed to describe, say, a mixture of chicory and coffee as French coffee or any other sort of coffee. In other words, genuine names should be attached only to genuine articles.

UNNECESSARY NOISES.

In THE LANCET of Sept. 29th we referred to the many unnecessary noises which afflict the dwellers in large towns throughout the country and more particularly to the noises caused by defective machinery in motor-omnibuses. Further, we drew attention to the regulations issued by the Commissioner of the Metropolitan Police as to the licensing of cars for London. It would appear from an article headed "From a Correspondent," which is published in the issue of Oct. 31st of one of our daily contemporaries, that the police have been acting with extreme rigour as regards the licensing of new motor-omnibuses. The correspondent says: "It was a frequent practice of Scotland Yard to issue from 20 to 30 new licences a week, but since a very rigid interpretation was put upon the regulation against 'undue noise' nearly a month ago, hardly a dozen of the latest-designed omnibuses have been passed." We are very glad to hear this, for the noise made by many of the omnibuses now running is irritating in the extreme. The correspondent goes on to say that it was not to be anticipated "that in two years the motor-omnibus makers would succeed in getting noiseless vehicles, when it took motor-car manufacturers nearly ten years to obtain perfection." Seeing that motor-omnibus manufacturers have all the experience of motor-car manufacturers upon which to work, this remarks seems to us quite beside the point. Noiselessness in any motor vehicle is, we believe, mainly a matter of expense, and it is well known that the motor-omnibuses now running were placed hurriedly upon the streets with a desire on the part of the promoters to be early in the field. It is quite time, therefore, that some check should be placed upon the further licensing of noisy cars, and as licences for motor omnibuses have to be renewed by the new year it is likely that many of the vehicles now on the streets will not pass the re-testing examination. As a matter of fact most of the A class are extremely noisy and their engines ought, in our opinion, to be refitted. We must allow that in some cases a certain amount of noise is due to the abominable condition of the roads. Portland-place, for instance, which is paved with what the Marylebone council calls macadam, would disgrace a small town in Russia as regards the condition of its roadway. But nothing else can be expected when a roadway originally laid with odd-sized lumps of granite, all of them too big, is allowed to continue from day to day

without the slightest care being taken to fill up holes as they are produced. It is too much to hope that we shall ever have a department for the whole country for the care of highways analogous to the French department of "Ponts et Chaussées," but at least one might be constituted for London.

SPONTANEOUS RUPTURE OF THE SPLEEN IN TYPHOID FEVER.

IN the *Journal of the Royal Army Medical Corps* for August Captain J. W. West, R.A.M.C., and Lieutenant T. S. Dudding, R.A.M.C., have reported a case of a very rare complication of typhoid fever—spontaneous rupture of the spleen. A soldier was admitted into hospital at Bloemfontein on Feb. 25th complaining of headache of two days' duration. The temperature was 101·4° F., the abdomen was slightly full, and there was no marked enlargement of the spleen. On the 28th the motions were loose and light yellow, and the temperature was 104° in the evening. He was sponged whenever his temperature rose above 103°. On March 1st a few rose spots were seen on the abdomen and chest. On the 3rd the temperature at 2 A.M. was 103·4° but was reduced to 101·6° by sponging. At 7.30 an enema was given and a loose stool resulted; at 8.30 a similar stool was passed. At 8.45 he complained of severe abdominal pain; he vomited, his face became pallid and covered with perspiration, and his temperature became subnormal. He was seen at 9 o'clock and was found to be in a collapsed condition, somewhat restless, and complaining of severe pain in the middle of the abdomen. The pulse was very weak and rapid, the abdomen was rigid, tender, distended, and tympanitic all over, and the liver dulness was obliterated. Perforation was suspected and it was decided to operate after waiting an hour or two to allow him to recover from his collapsed condition. He was given one-sixth of a grain of morphine and turpentine stupes were applied to the abdomen. The pain was relieved and the pulse improved somewhat. At noon laparotomy was performed under chloroform. On reaching the peritoneum it bulged into the wound and on incising it blood gushed out but no air escaped. The lower abdomen was full of blood and the intestines were floated upwards. The whole length of the small intestine was examined but no perforation or bleeding point could be found. The patient was in an exceedingly collapsed condition. Strychnine and ether were given but the pulse could not be felt. The spleen was suspected to be the bleeding organ but the patient could not stand any further interference, so the abdomen was washed out with hot saline solution to which 20 minims of adrenalin chloride were added. The abdominal wound was closed. Death occurred ten minutes later. The necropsy showed several large clots among the intestines and around the spleen. This organ was very large and was ruptured for the extent of three inches on its diaphragmatic surface. It weighed 2 pounds 2½ ounces and its capsule was extensively separated by clot. In the small intestine were seven typhoid ulcers and in the cæcum one very large and deep ulcer. The mesenteric glands were much enlarged. On section one showed a necrotic patch. The apparent mildness and short duration of the attack of typhoid fever are noteworthy. Captain West and Lieutenant Dudding suggest that the duration of the disease was longer than indicated by the history—viz., eight days. The temperature chart with its variations pointed to the third week of the disease. Enlargement of the spleen was veiled by tympanites. At the time of the collapse it was impossible to say whether the symptoms were due to perforation or to hæmorrhage. The intestines were floated upwards and very little fluid in the abdomen was sufficient to convert a slightly into a very tympanitic abdomen. The vomiting, acute unlocalised pain in the middle of the abdomen, absence of liver dulness, rapid weak pulse, pallor, and perspiration were all in accordance with a diagnosis of perforation. The only symptom that pointed to hæmorrhage was restlessness and this was not marked. Dulness in the flanks would have helped but this was not found to any extent.

SUNDAY OBSERVANCE.

A MEETING in support of the national Sunday movement was held on Oct. 30th at the Mansion House under the presidency of the Lord Mayor of London. There were present, amongst others, the Bishop of Stepney, the Rev. Bernard Vaughan, Lord Avebury, Sir John Kennaway, and the Rev. F. B. Meyer. Many of the speakers addressed their arguments from the religious point of view. We, as a medical journal, cannot discuss the matter from this point but we can, and do, insist that everyone so far as possible should have one day's rest in seven. It is manifestly impossible under the conditions of modern life for every person to have a day of rest on one and the same day. But as Sunday is taken as more or less a day of rest by far the majority of the inhabitants of these islands we welcome the efforts which are being made by men and women of all classes and of all shades of religious feeling to keep the first day as a day of rest. Increased facilities for locomotion have brought many evils in their train, and although we may welcome the fact that many a toiler can easily get out of town on a Sunday, yet it must not be forgotten that Sunday is one of the hardest days in the week for many railway men, omnibus men, and tram-car men. All of these should certainly have one day a week off. Again, the modern fashion of "week ends" as carried out by a certain class which has ample time for amusement all the rest of the week should be discountenanced. We do not for one moment suggest that there is anything wrong or selfish in a man who works hard all the week going out of town from Friday or Saturday to Monday; it is the fashionable country house week-end party which we deprecate, for such parties give needless trouble to many persons, who although they may be only servants and in receipt of wages yet have bodies constructed in a similar fashion to that of a duke or a millionaire.

DIARRHŒA MORTALITY IN THE METROPOLIS.

IN a special appeal issued in behalf of the Hospital for Sick Children, Great Ormond-street, the Duke of Fife, as President, calls attention to the large part of the infant mortality in London which is due to "certain diseases which are especially prevalent in summer" and to the fact that the hospital in question reserved a special ward during the summer months for the treatment of these diseases with the result that "many lives have been saved thereby." From a public health point of view detailed information as to the result of this experiment would be welcome. In the meantime a few facts relating to the recorded mortality from diarrhœa during the past summer in the county of London are worthy of consideration. During the 13 weeks ending on Sept. 29th 3536 deaths in London were directly referred to diarrhœal disease, 2753 being of infants under one year of age, 600 of children aged between one and five years, and only 183 of children or adults aged over five years. These 3536 deaths exceeded by 973, or 38 per cent., the corrected average number returned in the four preceding summer months of 1902-05. Changes in classification, adopted by the Registrar-General for the purpose of his returns, make comparison with a longer period undesirable, although such comparison would undoubtedly and considerably reduce the apparent excess during the past summer. The mean summer temperature both in 1902 and 1903 was below the average and the death-rate from diarrhœa was exceptionally low; whereas in 1904

the death-rate from this disease was equal to 3·42 per 1000, although as regards both mean temperature and rainfall the summer conditions were considerably more favourable than those that prevailed during the past summer when the diarrhœa death-rate did not exceed 3 per 1000. It should be noted that diarrhœa fatality last summer was considerably below the average until the middle of August.

THE ANNUAL MEETING OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual meeting of the Fellows and Members will be held at the College on Thursday, Nov. 15th, at 3 P.M., when a report from the Council will be laid before the meeting. Any Fellow or Member can obtain a copy of the report on application to the secretary and can have his name placed on the list of those to whom the report is sent annually. Any Fellow or Member wishing to bring forward any motion at the annual meeting must forward a copy of it, signed by the mover, to the secretary not later than Monday next, Nov. 5th. The agenda paper will be issued to any Fellow or Member who may apply for it.

THE SIGNATURE OF PRESCRIPTIONS.

WE have received from a lay correspondent a letter in which he draws attention to the scanty directions to the patient appended to most prescriptions. He admits that sometimes the words "before meals" or "after meals" are added to the directions as to the quantity to be taken, but he asks whether the medical man in these vague and general directions is not losing sight of his patient's lack of information as to medical matters. Again, he points out that such inexplicit directions as "to be taken in water" convey very little helpful information as to the quantity to be taken or the manner of using. It must be admitted that the complaint made by our correspondent is to some extent justified; the directions usually written at the foot of a prescription, and therefore transcribed upon the label of the medicine ordered, whether mixture, draught, pill, or powder, are often, to say the least, scanty. It may be maintained that the directions so appended are merely to recall to the patient or his friends the directions verbally given at the practitioner's visit or in his consulting-room, but even so allowance has to be made that of the many directions he may be given the patient is very liable to forget some, especially when his anxiety or other mental state is taken into consideration. There can be little doubt that the study of the art of prescribing is nowadays somewhat neglected by many students and practitioners, and the use of various forms of proprietary preparations and compressed drugs has served to foster this neglect, which is much to be deplored both from the point of view of the practitioner and his patients. Drugs should be administered in known forms and with due consideration of the time and manner of their administration, and for this purpose careful and explicit directions should be given to the patient or to those in charge of him. If these are not actually given in the signature of the prescription they ought certainly to be written on a separate sheet of paper and handed to the patient with the prescription.

A SPECIAL discussion will be held at the meeting on Nov. 13th of the Royal Medical and Chirurgical Society on the Operative Treatment of Non-malignant Ulcer of the Stomach and its Chief Complications, with Indications, Limitations, and Ultimate Results. The debate will be opened by Dr. W. Hale White and Mr. A. W. Mayo Robson and it is probable that it will be adjourned. A list of speakers is being prepared and the honorary secretaries will be glad to receive with as little delay as possible the names of those who wish to take part. Several gentlemen have undertaken to provide tables of hospital statistics, as was done at a recent debate on appendicitis which took place at the society, and these tables will be printed for the use of Fellows and visitors.

As regards plague in Queensland the Department of Public Health in a bulletin dated Sept. 22nd says that the 2 suspicious cases reported from Cairns during the week ending Sept. 15th have proved to be cases of bubonic plague of a mild type. No case of plague has occurred in Brisbane or the surrounding districts since June 20th. As regards the Mauritius a telegram from the Governor received at the Colonial Office on Oct. 26th states that for the week ending Oct. 24th there were 25 cases of plague and 20 deaths from the disease.

THE annual dinner of the staff and past and present students of the Royal Dental Hospital of London will be held on Saturday, Nov. 24th, at the Whitehall Rooms, Hôtel Métropole, under the presidency of Mr. William Hern. Gentlemen either now or formerly connected with the hospital or medical school, who may through inadvertence not have received special notice, and who desire to be present, are requested to communicate with the Dean, at the Royal Dental Hospital, 32, Leicester-square, London, W.C.

ON St. Luke's Day last the Royal College of Physicians of Ireland admitted to its Honorary Fellowship Dr. John F. W. Tatham, Superintendent of Statistics at the General Register Office and President of the Epidemiological Society.

Mr. H. S. Lunn, M.D., B.Ch. Dub., has received from the German Emperor the Order of the Red Eagle in recognition of his services in organising the municipal visit to Germany in June, 1905, and the return visit to England in May last.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Nov. 1st, 1828.

ABSENCE OF THE SEPTUM VENTRICULORUM CORDIS.

Fr. S., ætat. 24, subject from his infancy to violent beating of the heart, was, in 1820, affected with pneumonia, in consequence of which, the palpitation considerably increased, and even brought on frequent attacks of suffocation, in which he found no relief, except by pressing the chest strongly against some resistant body. He was treated in different ways, but without any success; an incipient hæmorrhoidal discharge seemed for some time to mitigate the symptoms, but the affection of the heart, and the difficulty of breathing, presently increased anew; the patient was obliged to remain completely still; anasarca, and at last ascites, came on; the heart beat most violently, each pulsation communicating an oscillatory movement to the left side of the chest; the pulse was ninety, equal and regular; respiration stertorous, and the voice scarcely audible. At the patient's request he was tapped; but the operation afforded him only a transient relief, and he expired a few days afterwards.

On examining the body, the pericardium was found of an extraordinary size, and almost covering the whole anterior surface of the lungs. The cavity of the chest was filled by several pints of a bloody serum; the lungs were strongly compressed against the ribs, but not altered in structure. The pericardium was in its whole extent adherent to the heart, the cavities of which were filled with black grumous blood; its volume and parietes were three times larger than usual; the septum ventriculorum was totally wanting, not the slightest trace of it could be found. The origin of the vessels was

natural; the apertures of the veins were slightly enlarged, and the aorta was remarkably flaccid. The other organs were found in a healthy state.—*Hufeland's Journal.*

That this was a case of malformation of the heart, there seems to be no doubt, as a subsequent destruction of the septum can hardly be supposed. It strikingly confirms Meckel's most ingenious theory, that the greatest number of monstrosities, (all except those caused by excess of organs and hermaphroditism) are founded on a retarded formation of the organs; they remain in one of their primitive conditions, without proceeding to their further development. This is evidently shown by the malformations of the heart, the series of which, at the same time, exhibits the centre of circulation in all the different conditions, which mark the different classes of animals, from crustacea to mammalia, and thus distinctly represents the gradual progression through the different stages of the animal perfection. We need hardly mention the striking analogy between the heart in the above reported case and in the genus batrachii.

ACCIDENTS DUE TO CHLOROFORM INHALATION.

M. J. Tissot has undertaken an important research, which is recorded in the *Revue Scientifique*,[1] dealing with the causation of accidents occurring under chloroform. As he indicates, it is necessary before any clear understanding upon such a subject can be arrived at that we should obtain accurate knowledge about the mechanism whereby chloroform gains intimate access to the ultimate anatomical elements of the tissues of the body and that we should be able to ascertain trustworthy data upon the effects produced by definite quantities of chloroform in the arterial blood and in the tissues themselves. While investigating the conditions which control the passage of chloroform vapour contained in an atmosphere into the arterial circulation, Paul Bert came to the conclusion that percentages of chloroform vapour in air less than from 1·4 to 1·6 per cent. were incapable of establishing anæsthesia, while those above 2·4 per cent. were liable to produce accidents and sometimes even death. Thus he obtained his well-known "workable zone" of atmospheres of chloroform vapour ranging in concentration from 1·6 per cent. to 2·4 per cent. His determinations agreed with those arrived at independently by Snow, Dubois, and more recently in this country by the Special Chloroform Committee of the British Medical Association. The absorption of chloroform from such an atmosphere into the arterial stream is determined, according to Bert, by the difference of tension between the two. Anæsthesia would therefore be obtained when these tensions were equal and when chloroform was deported by the venous blood at the same rate as that at which it was conveyed to the arterial stream. M. Tissot now points out that this theory can no longer be accepted, as Bert overlooked an important factor in the problem—the amount of the lung ventilation. M. Tissot asserts that while it is true that a 0·8 per cent. will not induce anæsthesia when the lung ventilation is feeble yet when artificial respiration is practised and the vigorous breathing thus produced leads to an increased actual intake of chloroform profound narcosis can be obtained. These experiments also demonstrate that even low percentages of chloroform vapour when given while full ventilation is insured produce not only profound narcosis but a fall of blood pressure of from three to four cm. of Hg and that the intoxication of the tissues is sufficient to determine a persistence of anæsthesia lasting 15 or more minutes subsequent to the cessation of inhalation. The experiments further show that when a percentage of 1·2 is used anæsthesia is obtained only when artificial vigorous lung ventilation is practised and disappears after a time when normal breathing is resumed. 1·6 per cent. barely suffices to render dogs insensible but when vigorous artificial respiration is carried out by manual pressure upon the chest the animals are soon killed by this dilution of chloroform vapour. M. Tissot is thus led to enunciate one of his conclusions: the entrance of chloroform into the blood is determined solely by the tension of its vapour in the pulmonary alveoli and not by the actual percentage value of chloroform in the atmosphere inhaled. The alveolar tension is lowered by the absorption of chloroform into the arterial stream after each inspiration and is raised to a higher level when the pulmonary ventilation is increased. If this view is correct we may accept M. Tissot's practical commentary that it explains many of the deaths under chloroform which have occurred during the stage of excitement when the breathing becomes both rapid and deep and thus brings about the fullest lung ventilation. It also explains the so-called "susceptibility" of dogs to chloroform, since these animals are very liable to rapid breathing during the induction period. A further proof that Bert was mistaken in his view that at a certain period there occurs an equilibrium of tensions between the chloroform contained in the inhaled atmosphere and in the blood stream is afforded by M. Tissot, who by shaking blood in the presence of chloroform (1·6 per cent.) found that 90 milligrammes of chloroform per 100 cubic centimetres of blood are taken up, the lethal dose of chloroform being from 60 to 70 milligrammes per 100 cubic centimetres of blood. It is reasonable to believe that Bert's theory that an equilibrium is established between the ingoing and the output of chloroform was based upon a fact which all workers have recognised—viz., that there is in all cases of ordinary surgical anæsthesia a period of quasi- and unstable equilibrium. The breathing lessens in amplitude and the blood pressure falls so that the very conditions at which M. Tissot has arrived experimentally are brought about and the patient takes in less chloroform, while his tissues absorb less since the lung ventilation is diminished.

This state of quasi-equilibrium depends, M. Tissot believes, upon two factors—the rapidity with which the chloroform penetrates into the blood stream and the celerity with which it passes thence into the tissues. The diffusion of the chloroform from the blood and into the tissues is controlled by the duration of contact between the blood and the tissues; the relation subsisting between the quantities of chloroform in the blood and in the tissues; the rapidity of the circulation; and the actual nature of the tissue itself. The physical laws which govern the first two of these four factors have been investigated and are now recognised, but there has been less work undertaken to elucidate the last two, and M. Tissot has set himself the task of studying the problems which they present. In profound narcosis the circulation is considerably slowed and as a result the blood in the pulmonary vessels absorbs a greater quantity of chloroform, while under these conditions the tissues take up more chloroform from the arterial blood. The actual amount of the anæsthetic contained in the circulation and tissues thus becomes greater, and when the arterial pressure falls, as it does in deep narcosis, there is, if we accept M. Tissot's views, an increased danger of accumulation of chloroform when the blood pressure is low. It has been long recognised that the nature of the tissues themselves plays a not inconsiderable part in determining the rate of absorption of chloroform by them, and that there is an affinity, if we may be allowed the term, between chloroform and certain constituents of the body. Pohl's reassertion that the lecithin-containing tissues possess this affinity in a marked degree has been confirmed so far as the nervous system goes by more recent observations and now receives the endorsement of M. Tissot.

Admitting the view advanced so strenuously by this writer that there is continuous and very definite accumulation of chloroform, that, in fact, it becomes "stored" in the tissues, we are bound to consider the effects upon the various tissues of the body of the passage of chloroform in and out of the organism. M. Tissot's view, and it is accepted in the main by other workers, is that during the period of induction the chloroform tension increases in the arteries, then in the tissues, and in less degree in the veins. He asserts further, but here his work is not universally accepted, that the chloroform becomes "fixed" in the tissues and chiefly by those of the nervous system. Although the rate of absorption may vary from time to time owing to variations in blood pressure, yet upon the whole this accumulation goes steadily forward and ultimately causes death when the chloroform tension reaches a certain and definite height. Bert's "safe zone" is brushed aside and definite proportions are safe only so long as we employ them in a diminishing scale when the narcosis is prolonged. We are told, rightly, that the effects of an anæsthetic depend not upon the actual percentage of chloroform which is found in the arterial blood but upon the amount which diffuses into the tissues and especially into

[1] Revue Scientifique (Revue Rose), 5th Series, tome v., Nos. 12 and 14.

those constituting the nervous system. It is not an easy matter to determine the actual amount which must enter these tissues to determine anæsthesia. Probably it is far less in amount than that which nine-tenths of patients inhale before becoming insensible and the excess taken must depend to a great extent upon the method of inhalation adopted. When strong vapours induce rapid anæsthesia M. Tissot tells us the tissues quickly become poisoned and remain on the verge of catastrophe until the inhalation is stopped and the veins withdraw from tissues their excess of chloroform and deport it to the alveolar air whence it is expired.

M. Tissot's results clearly demonstrate two sources of danger: the one arises either during excitement or reflexly and consists in rapid and irregular breathing which induces an unduly large quantity of chloroform vapour to be inhaled and fixed by the tissues in a unit of time; and the other the gradual accumulation of chloroform in the tissues which takes place during a prolonged inhalation of a non-lethal strength of chloroform vapours. The peril of an undue intake and of accumulation is accentuated, M. Tissot asserts, and his experiments appear to corroborate his view, when anæsthesia is produced by large quantities of chloroform inhaled in a very brief space of time. The actual figures which he proposes are significant. In slow narcosis, such as from 10 to 12 minutes, anæsthesia is effected by from 32 to 38 milligrammes in 100 cubic centimetres of blood; in rapid narcosis the amount is from 50 to 70 milligrammes in 100 cubic centimetres of blood. In a medium case, from four to six minutes being taken for the induction, from 42 to 46 milligrammes are found. The dose of chloroform in the arterial blood does not necessarily as such determine fatal accidents, since, as has been pointed out, it is the amount of the anæsthetic fixed in the tissues which is responsible for accidents, but indirectly the arterial blood being the vehicle by which the poison is conveyed to these tissues it is important to know the relation between the dose which is competent to induce anæsthesia and that which will destroy life. M. Tissot asserts that the lethal dose is double the anæsthetic dose, and this statement is in harmony with the conclusion arrived at by Snow, Paul Bert, Dubois, Dastre, and many others.

Dealing with the mechanism of death from chloroform M. Tissot's remarks are noteworthy, even though he has not attempted to review the work of other observers, if we except his passing reference to that of Dastre and Morat, Richet, Knoll, and François Franck. The heart, M. Tissot believes, causes death. He regards primary heart failure as due to over-dosage affecting the intracardiac nervous mechanism. The view that the heart muscle becomes directly affected does not find acceptance with him, although he advances no explanation of the acute dilatation which has been definitely described by others and which appears to have been accepted by physiologists as proved. Nor does the reflex inhibition theory appear to impress this experimenter as having been conclusively demonstrated, although he favours the view that some subjects show an especial susceptibility towards chloroform, due, he suggests, to a peculiarity of their circulation or of the mucous membrane of their pulmonary system. Secondary heart failure he regards also as always due to over-dosage. In the one case it follows from excessive doses being administered when the breathing is abnormally full and abnormally deep: in the second it is due to accumulation of chloroform in the tissues; while in the third it is consecutive upon rapid and riotous respiration brought about by operative shock when the person operated upon is incompletely anæsthetic.

We are not concerned at the moment with the practical advice concluding M. Tissot's paper, but his research calls for some comment. The salient points are involved in his attempt to prove that there is an accumulation of chloroform in the tissues. All thoughtful workers in this field of research have agreed long ago that the dangers of chloroform are the result of methods not infrequently employed. The risk of strong vapours rapidly inhaled is patent, and no one will be inclined to dissent from M. Tissot's dictum that all deaths *from* chloroform are due to overdose. We must of course carefully distinguish between deaths *from* and deaths *under* chloroform. Many deaths falling into the latter category have no causal relation with the anæsthetic. But the possible danger of over-dosage, even when dilute vapours are employed, has not been always studied or emphasised so well as by the writer of the papers which we are considering. It is matter of common observation, and is inculcated, we believe, by the authorities, that the amount of chloroform required to induce anæsthesia is many times larger than that necessary to maintain it. It has been shown also that so soon as unconsciousness is established the chloroform is conveyed away from the tissues. Again, for some minutes or even hours after an inhalation of chloroform has ceased the breath of the patient contains an appreciable amount of chloroform. These considerations all point to fixation of the drug by the tissues, and given their power to continue the absorption of chloroform it is not difficult to see how readily accumulation may lead to tissue poisoning and systemic disaster. If for no other reason M. Tissot's research deserves distinction in that it insists upon the importance of the rôle played by the tissues in the chloroform problem. We know at present comparatively little with exactness about the effects upon function caused by deterioration of tissues. It is permissible to assume that the resistive powers of tissues towards chloroform when lessened by disease or impoverished by physiological or pathological starvation, will reveal themselves in various ways. The terms "caprice" and "idiosyncrasy" so glibly employed may express a very real pathological fact and one with which the physician must reckon when he employs a drug like chloroform. In passing, we may indicate that this tissue depreciation probably causes the condition called "acidosis," or delayed chloroform poisoning (Guthrie), associated in some cases with chloroform inhalation. It is further noteworthy that the experiments of M. Tissot fall into line with much of the recent work upon chloroform dosage. If they prove anything, they demonstrate in the most convincing manner the danger of using strong vapours of chloroform and of compelling the patient by heroic doses to pass rapidly into insensibility. By strong vapours M. Tissot means those above 1·8 or 2 per cent. We think the necessity for slow anæsthetisation is at times overlooked. It should be slow, because the slowness, provided the inhalation is continuous, enhances the patients' safety and lessens their risk of after-complications.

REPORTS ON PLAGUE INVESTIGATIONS IN INDIA.

THE Secretary of State for India in 1905 placed the direction of an inquiry concerning some of the unsettled problems of plague with an advisory committee appointed by the Secretary of State, the Royal Society, and the Lister Institute acting in conjunction. The administration of an annual grant of money was also placed at the disposal of the advisory committee, which consisted of Surgeon-General A. M. Branfoot, C.I.E., chairman (representing the Secretary of State for India), Sir Michael Foster, K.C.B., F.R.S., and Dr. J. Rose Bradford, F.R.S. (representing the Royal Society), and Colonel David Bruce, C.B., F.R.S., and Dr. Charles J. Martin, F.R.S. (representing the Lister Institute). Dr. A. E. Boycott was appointed secretary to the committee.

The advisory committee proceeded to elect a working commission constituted as follows: Major George Lamb, I.M.S.; Captain William Glen Liston, I.M.S.; Dr. George Ford Petrie and Mr. Sydney Rowland of the Lister Institute; Captain Thomas Henry Gloster, I.M.S.; Dr. M. Kasava Pai, Assistant Surgeon, Madras; Mr. V. L. Manker; Mr. P. S. Ramachandrier, First-class Hospital Assistant, Mysore; and Mr. C. R. Avari, Hospital Assistant, Bombay.

Dr. C. J. Martin, Director of the Lister Institute, proceeded to India at the end of March, 1905, and under his direction the work of the commission was organised and commenced its labours in India during the summer of that year. When Dr. Martin left in the following October Major Lamb became the director of the work of the commission which had its headquarters at the Plague Research Laboratory, Parel, Bombay.

The report to hand[1] is stated to be merely a preliminary one. Similar reports are promised from time to time and it will be some considerable time before we can hope for the publication of the full discussions and conclusions of the commission. The investigation in India has been greatly helped by Lieutenant-Colonel W. B. Bannerman, I.M.S.;

[1] Journal of Hygiene, September, 1906, Extra Number, containing Reports on Plague Investigations in India. Cambridge: At the University Press. Price 6s. net.

Dr. J. A. Turner, medical officer of health of Bombay; Mr. C. M. King; and Major S. Browning Smith, I.M.S.

The attention of the commission has been mainly directed to three points—viz., (1) to a study of the epizootic spread of plague among rats; (2) to the precise relationship of the epizootic to the epidemic: and (3) to the modes by which the disease may be communicated from rat to man. In elucidation of these several points a series of experiments has been undertaken and conducted with precision and an accuracy of detail which appear to be conclusive. The main part of the present report is devoted to

Experiments upon the Transmission of Plague by Fleas.

Part I. of this discussion is taken up with a historical introduction of work done in elucidation of the part played by fleas in the transference of plague. Ever since plague appeared in Hong-Kong in 1894 the association of rat plague and human plague has been shown to be so constant that epidemiologically plague is by many now regarded as essentially a rat disease in which human beings may participate. The present investigations in India also seem to point, not only to the belief that the epizootic is principally responsible for the spread of plague, but that the outbreak in man is *preceded* by the extensive development of an epizootic of plague amongst rats. Seeing, therefore, that plague amongst rats is so generally admitted to be fundamental to the spread of plague it is at once evident why the commission devoted so much time and work to the question of the means whereby plague is spread from rat to rat and from rat to man.

Modes of Transmission.

Of several channels of communication between rats and between rats and man some are known to be positive, some negative, and some yet remain to be proved. There is no doubt that the disease can be conveyed from rat to rat by a healthy rat eating the carcass of a rat which has died from plague. Yet this method is uncertain, for unless the dose is a large one infection will not take place, and the truth or otherwise of the statement in no wise serves to explain the infection of man from rats.

Transmission by Insects.

The part played in the transference of plague from rat to rat and from rat to man by insects is no new subject; it has been tested by experiment and has found supporters and disbelievers any time during the past 12 years. Yersin dealt with the matter in Hong-Kong so long ago as 1894 and several observers have extended our knowledge of the subject.

Fleas.—Of all suspected transmitters of plague rat fleas have been most seriously accused. Yersin, E. H. Hankin, and G. H. F. Nuttall severally showed that the dejecta of fleas and of ants fed on infected material contained virulent plague bacilli. M. Ogata showed that crushed fleas taken from the fur of rats dead from plague when injected into mice produced the disease. P. L. Simond confirmed Ogata's experiment and detected plague bacilli in the stomachs of fleas fed on rats and mice dead from plague. Simond also made the important observation that when rats dying from plague were freed from fleas it was impossible to transmit the disease by mere contact. The manner in which the flea transmits infection was made the subject of further investigation by Simond. The mere soiling of the proboscis of the flea with blood containing plague bacilli seemed an unlikely method of transmission owing to the very limited time during which the insect could remain infective. Simond inclined rather to the belief that transmission possibly takes place by way of the dejecta. In support of this contention he observed that, whilst sucking, fleas were in the habit of discharging dejecta on the skin near the puncture which they had made whilst feeding, and subsequent scratchings by the victim to relieve the irritation served as a means of rubbing in the infective material which had been deposited. Gauthier and Raybaud in 1902 and 1903 repeated Simond's experiments at Marseilles. They confirmed Simond's observation that rats did not contract plague from one another by mere contact in the absence of fleas but that fleas transferred themselves from the dead to the living rats in adjacent but not contiguous cages and conveyed to the healthy animal infection. W. J. Simpson in 1903 in Hong-Kong allowed plague-infected fleas to bite monkeys, with the result that the monkeys became seriously ill. Zirolia in 1902 made the interesting observation that plague bacilli multiplied in the stomachs of fleas and retained their original virulence from seven to eight days, during which time the bacilli were passed in the fæces. He also confirmed Simond's statement that fleas whilst sucking frequently defæcate. W. G. Liston observed in India that plague bacilli multiplied in the stomach of fleas.

In opposition to the view that fleas determine transmission of plague we have some direct observations. The German Plague Commission at work in India in 1899 found plague bacilli in fleas taken from plague-infected rats but rather negatived the view that fleas by their bites transmitted the disease. F. Tidswell failed to confirm Simond's views that fleas transmitted plague from rat to rat, although he found the plague bacilli in the stomachs of fleas taken from plague-infected rats. Galli Valerio stated in 1900 that the rat-fleas, at any rate in Europe, do not attack man and whatever may be true of the infection of rats by their means man could not be so infected. Kolle failed to convey infection from rat to rat by means of fleas. E. Hill in 1904, from his observations and experiments, came to the conclusion that infection may take place without the agency of fleas. Liston failed to infect healthy animals by plague-infected fleas in India. Kister and Schumacher in 1905 repeated in Hamburg the experiments of Gauthier and Raybaud with precise precautions; all their experiments as to the power of infection possessed by plague-infected fleas proved negative. Despite the fact that several observers failed to prove the direct infection of healthy rats by fleas from infected rats, the opinion of the majority is that these insects do play a part—an important part—in the transmission of plague. Even Liston, who failed to incriminate rat-fleas as transmitters of the disease, brings forward valuable circumstantial evidence in favour of the view that plague is thus epidemically spread.

Bugs.—G. H. F. Nuttall in 1897 fed bugs upon plague-infected mice and subsequently allowed them to bite healthy mice. Although the bugs harboured bacilli as long as three days after feeding on the plague-infected mice the experiment proved negative. Kister and Schumacher in 1905 also tried experiments in Hamburg with infected bugs but in every case there was a negative result. W. Hunter found in Hong-Kong in 1905 that bugs contained plague bacilli in their alimentary canals after feeding on plague-infected material but the bacilli disappeared from the intestine of the bugs in a few days and he concludes that the part played by suctorial insects is similar in all respects to that of non-suctorial—i.e., the mechanical conveyance of infection from place to place.

Flies and *ants* have been found to contain in their alimentary canals plague bacilli after feeding on infected material. The former were thus incriminated by W. Hunter in 1905 in Hong-Kong and the latter by G. H. F. Nuttall, Yersin, and E. H. Hankin.

At the present time the almost universal opinion of sanitary officers in India who have been engaged in dealing with the epidemics seems to be that the disease in rats is principally responsible for the spread of plague and as a corollary to this statement all the evidence accumulated seems to be that rat-fleas are the chief agents in the transmission.

ELECTION OF DIRECT REPRESENTATIVES UPON THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—At the request of many of my fellow-practitioners I offer myself as a candidate for one of the seats on the General Medical Council at the next election in November. I have been in general practice for 35 years and am likely to continue a general practitioner as long as I can work. I have been constantly at work on the council and committees of the British Medical Association, both in London and Birmingham. I am at the present time chairman of the Central Council, and have been President of the Birmingham Branch. I am a member of the councils of the Medical Defence Union, of the Midland Medical Society, in which I have held the office of President, of the British Medical Benevolent Society, and the Midland Medical Benevolent Society. I have also been chairman of council and President of the Birmingham and District General Medical Practitioners' Union. Through holding these appointments I have been able to acquire an intimate knowledge of medical work and medical needs.

If returned, I should endeavour in every way to maintain

the interests of the medical profession by urging upon the General Medical Council the necessity for a new Medical Act, in which provisions should be made: (1) for the establishment of State Examinations in Medicine of a high standard compulsory on all entering the profession; (2) the suppression of the numerous methods of unqualified practice that now obtain; in return for which the licensed practitioners should pay an annual fee to the State during the years they should be in practice; (3) increased representation of the profession on the General Medical Council.

I am, Sirs, yours very truly,

HENRY LANGLEY BROWNE.

Moor House, West Bromwich, Oct. 18th, 1906.

To the Editors of THE LANCET.

SIRS,—May I ask the three scrutineers of votes given at a meeting of the Wandsworth division to complete their statement by giving the number of votes which they scrutinised and the proportion which this number bears to the total of those practising in the district?

I understood that the Representative Meeting of the British Medical Association decided in July last to remain impartial in this election. Why, then, are the parts doing what the whole decided against? Supposing that each division nominates three different names (as may easily be the case) what can the result be but chaos?

I am, Sirs, yours faithfully,

Putney, S.W. W. G. DICKINSON.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Oct. 27th, p. 1165, Dr. McManus says, "I do not quite follow Mr. Harford's letter." Well, I do not think it is at all difficult to follow. I said the Battersea Provident Dispensary was a huge organisation with a membership of over 20,000, that it publicly advertised its fees by painting them in large letters on the outside of its premises, that it was grossly abused, that householders paying high rents were members of it, that it was in unfair competition with outside practitioners in the locality daily taking patients from them who were well able to pay better fees than 1*d.* a week, that some members of its privileged staff had between 6000 and 7000 patients on their lists and received a remuneration of over £600 a year, and that Dr. Leonard Strong McManus was one of the most influential members of the said medical staff. And now Mr. H. Nunan Collier, who says my remarks are mild, asserts in THE LANCET of Oct. 27th, p. 1164, that disguised or undisguised "touting" is carried on by its collectors, and that this "charity," able to afford to pay such large salaries to its medical officers, actually receives a generous contribution from the King's Hospital Fund, and subscriptions from private firms in the neighbourhood! To this indictment Dr. McManus replies that the Dispensary "is worked on absolutely correct lines." Such a reply will be, I think, Sirs, unsatisfactory to the common-sense of your readers. I am, Sirs, your obedient servant,

Wandsworth-road, S.W., Oct. 29th, 1906. M. S. HARFORD.

To the Editors of THE LANCET.

SIRS,—I beg to inform you that at the general meeting of the Swansea Medical Society, held on Oct. 23rd, the inclosed resolution was unanimously adopted:—

That this general meeting of the Swansea Medical Society cordially approves of the candidature of Dr. Latimer and Dr. McManus, and pledges itself to support their election to the General Medical Council.

I am, Sirs, yours faithfully,

F. DE COVERLY VEALE,
Honorary Secretary.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on Oct. 25th, Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The following gentlemen having passed the required examination were admitted Members of the College:—Charles Henry Benham, M.D. Lond., L.R.C.P. Lond.; William Haig Brodie, M.D. Edin.; Peter Kevin Byrne, M.D. Lond., L.R.C.P. Lond.; Ernest Nicholson Cunliffe, M.D. Vict.; Henry Devine, M.B. Lond., L.R.C.P. Lond.; John McCrae, M.B. Toronto, L.R.C.P. Lond.; Carlton Oldfield, M.D. Lond., L.R.C.P. Lond.; and Alexander Corsar Sturrock, M.D. Edin.

Licences were granted to 122 gentlemen who had passed the required examinations.

It was announced that the Jenks scholarship had been awarded to Mr. Godfrey Alan Walker.

The PRESIDENT announced that he had nominated the following Fellows to act as adjudicators for the next Weber-Parkes prize and medals: Dr. J. F. Payne, Dr. H. W. G. Mackenzie, and Dr. A. Newsholme.

The following communications were received: 1. From the trustee of the will of the late Sir G. T. Michael O'Brien, K.C.M.G., informing the College of a bequest by the testator of the reversion of £1000 to a hospital for the treatment of the blind, and of a like bequest to a hospital for the treatment of cancer, the hospitals to be selected by the President of the College. The funds of the trust, however, are not likely to be available for some time. 2. From the clerk of the Privy Council, August 20th, announcing the further postponement for a year of the International Congress on Gynæcology at St. Petersburg, which was fixed for September, 1906. 3. From the secretary of the Royal College of Surgeons of England, reporting certain proceedings of its Council on July 26th last and on Oct. 17th. 4. From Mr. Jonathan Hutchinson, F.R.S., thanking the College for the honour which it conferred on him by awarding to him the Moxon medal. 5. From Mr. Thomas Hodgkin, D.C.L., of Bermoor Castle, offering for the acceptance of the College a photo-engraving of a portrait of his uncle, the late Dr. Thomas Hodgkin of Guy's Hospital, a Licentiate of the College of 1825. The gift was accepted and the thanks of the College were ordered to be given to the donor.

Dr. NORMAN MOORE was re-elected a member of the committee of management.

After some further formal business the PRESIDENT dissolved the Comitia.

BRITISH MEDICAL BENEVOLENT FUND.

AT the recent meeting of the committee 14 applications were considered and sums amounting to £139 voted in relief. The deaths of two annuitants were reported and the vacancies so created filled by the appointment of two of the selected candidates. Appended is a short abstract of the cases to which grants were made.

Widow, aged 43 years, of M.B., C.M. Aberd., who practised in Worcestershire and abroad. Small means at husband's death have been exhausted in educating the children who are still barely self-supporting. Applicant endeavours to maintain herself by nursing but finds great difficulty in obtaining work just at present. Recommended by Dr. A. H. Vassie. Voted £5 in one sum.

Daughter, aged 70 years, of late L.S.A., who practised in a London suburb for many years. Unprovided for at father's death, 20 years ago, and has maintained herself until the present time by taking boarders. Recommended by Mr. George Eastes. Voted £12 in 12 instalments.

Widow, aged 63 years, of M.R.C.S., L.S.A., who practised for 44 years in Oxfordshire. Applicant nursed husband through a long illness which ended in death two years ago and the proceeds of an insurance policy were swallowed up by debts. No income; no children. Is endeavouring to obtain a post as housekeeper or companion. Recommended by Dr. J. F. Goodhart (vice-president). Voted £12 in 12 instalments.

M.D. Edin., aged 69 years, who practised in Lancashire but for the last few years has been very infirm and is now dependent on the kindness of neighbours. Recommended by Sir Patrick Heron Watson. Voted £12 in 12 instalments.

Daughter, aged 62 years, of late L.S.A. who practised in a London suburb for 40 years. Applicant and a sister have supported themselves since father's death, 15 years ago, by taking boarders but have recently done very badly and are unavoidably in arrears with the rent. Recommended by Dr. H. Baxter Forman. Voted £12 in 12 instalments.

L.R.C.P., L.R.C.S. Edin., aged 70 years. Qualified late in life but never had any means to practise on his own account and has been obliged to devote his savings as assistant to his mother and sisters. Unable to obtain work on account of his age. Recommended by Dr. G. Hailey, honorary local secretary. Voted £12 in 12 instalments.

M.R.C.S., L.R.C.P., aged 57 years, who practised in Essex and Hampshire. Was incapacitated by a serious accident more than two years ago and has exhausted all his means. Three children, one dependent, the others unable to help. Recommended by Dr. F. T. Roberts, vice-president. Voted £10 in two instalments.

Daughter, aged 57 years, of late M.D. Lond., who practised in Harley-street. No income; endeavours to support herself by knitting, but is frequently incapacitated by ill-health. Relieved twice, £24. Recommended by Mr. A. Pearce Gould, vice-president. Voted £12 in 12 instalments.

Widow, aged 46 years, of late L.R.C.P. Edin., who practised in Japan. No income; children only able to give very slight assistance; endeavours to maintain herself by nursing but for the last 18 months has been incapacitated by a serious illness. Relieved 12 times, £120. Recommended by Dr. C. Muirhead. Voted £12 in 12 instalments.

Daughter, aged 56 years, of late M.D. Lond., who practised in Sussex. No income; lets lodgings but does not earn sufficient for maintenance; sight failing. Relieved 23 times, £178. Recommended by Dr. W. Rosser, honorary local secretary. Voted £6 in six instalments.

Daughter, aged 64 years, of late M.R.C.S., who practised in Hampshire. For many years has acted as companion to mental cases but is now unable to obtain such a post; hopes shortly to be elected to a pension from a benevolent society. Relieved twice, £15. Recommended by Mr. E. East. Voted £5 in one sum.

Widow, aged 67 years, of L.R.C.S., L.R.C.P., who practised in Herts. Unprovided for at husband's death; children only able to give slight help; indifferent health for last three years. Relieved 14 times, £144. Recommended by Mr. J. Roche Lynch. Voted £12 in 12 instalments.

Widow, aged 49 years, of L.R.C.P., L.R.C.S. Edin., who practised in London. Quite unprovided for at husband's death two years ago and unable to obtain employment on account of bad health. Relieved twice, £17. Recommended by Dr. J. Mitchell Bruce (vice-president). Voted £5 in one sum.

Daughter, aged 59 years, of late M.R.C.S., L.S.A., who practised in Sussex. Receives a pension from the Kent Medical Benevolent Society, but income is insufficient for maintenance on account of slight mental deficiency which necessitates applicant being placed in rooms where she can be looked after. Relieved ten times, £96. Recommended by Mr. A. S. Bostock. Voted £12 in 12 instalments.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ANNUAL REPORT.

THE Council of the Royal College of Surgeons of England has just issued its annual report, which is to be laid before the yearly meeting of the Fellows and Members on Nov. 15th. The meeting will be held in the College at 3 P.M. The report is an exposition of the year's work and contains items of considerable importance.

The length of the medical curriculum has been carefully considered and a committee of the two Royal Colleges in England was appointed to report upon the following proposals: (1) to treat chemistry, physics, and biology as subjects of preliminary education and to require that an examination in them should be passed before the recognition of the commencement of medical studies; and (2) to adopt a first year's curriculum of professional study from the date of passing the preliminary science examination. With regard to these questions the committee was unanimously of opinion: (1) that it is undesirable to treat chemistry, physics, and biology as subjects of preliminary education; (2) that it is undesirable to require an examination in chemistry, physics, and biology to be passed before the recognition of the commencement of medical studies; and (3) that it is therefore undesirable that the Royal Colleges should approach the universities and other examining bodies with a view to adopting a five years' curriculum of professional study from the date of passing the preliminary science examination. The report contains the reasons why the Council has adopted the opinions as set forth above.

The regulations for the Fellowship have been under consideration on account of a report received from the court of examiners recommending the alteration of the clause in the regulations requiring a candidate before admission to the first examination for the Fellowship to produce a certificate "of having been engaged in the acquirement of professional knowledge at a recognised medical school subsequent to registration as a medical student during a period of not less than three winter sessions."

The court pointed out that the 18 months' dissections required for the Fellowship could be completed in two winter and two summer sessions, but that, while those candidates who had studied the early subjects of the medical curriculum—viz., chemistry, physics, and biology—at a medical school could count such study as part of the course required for the Fellowship, those who had studied these subjects at a non-medical school could not do so but were obliged to complete another winter session at the medical school.

The Council having appointed a committee to consider the proposal of the court, it was pointed out that the suggested alteration of the regulations did not reduce or alter in any way the course of study then required for the Fellowship. The main object was to make the conditions of admission to the first examination fair for all classes of candidates. Under the conditions then in force two candidates might have pursued the same course of study and yet one might be admissible and the other not. Thus a candidate who had studied chemistry, physics, and biology at a medical school for 18 months was admissible to the examination, but a candidate who had studied chemistry, physics, and biology elsewhere than at a medical school for six months and had dissected at a medical school for 18 months was not admissible to the examination, although the study of chemistry, physics, and biology at non-medical schools was recognised and approved by the College. It was to remove such inequality of treatment that the alteration of the regulations was designed. The committee, having considered the question of altering the by-laws, arrived at the following conclusion—viz., that it is inadvisable to alter By-law Section 20, Clause 3, so as to make it necessary for a candidate for the first examination for the Fellowship to dissect for three winter sessions.

With regard to the suggested diplomas in tropical medicine a report has been received from the visitors appointed by the two Colleges to inquire into, and to report on, the arrangements made by other institutions for the study of tropical medicine and examination therein. The committee of visitors admitted that the schools of tropical medicine have opportunities of research in a certain number of diseases which are much greater than those possessed by most general hospitals in the British Isles; and that a knowledge of these diseases is eminently desirable in the case of medical men practising in the tropics, but not by any means equally necessary for medical men practising at home. It is impossible for the Royal Colleges to ignore the existence of this important branch of knowledge or the following facts: (1) that it is not at present adequately provided for at the ordinary medical schools; and (2) that it is provided for at Liverpool, the London School of Tropical Medicine, and the Navy and Army Medical Colleges. They may well, therefore, consider whether, in extension of the functions they already possess of giving diplomas in medicine, surgery, obstetric medicine, and State medicine, they should not also give diplomas or certificates which would implicitly or expressly guarantee a knowledge of tropical medicine.

The question of varicocele as an impediment to military service has been considered owing to the Council having been consulted by the Director-General of the Army Medical Service as to whether, and, if so, to what extent, varicocele should be regarded as a disqualification for military service. The Council replied that in cases where candidates are otherwise physically fit, varicocele, unless present in a severe degree, need not disqualify them from service in the army.

Regarding College scholarships, Mrs. Macloghlin, whose munificent proposal to bequeath to the College a sum of £10,000 for the endowment of scholarships in memory of her husband, the late Mr. Edward Percy Plantagenet Macloghlin, M.R.C.S., was recently announced, intends to increase the value of her bequest. She now proposes further to bequeath to the College the residue of her estate to form the "Eliza Macloghlin Bequest," the income arising therefrom to be applied for the purpose of increasing the value of the Macloghlin scholarships.

With regard to the financial state of the College, the gross income for the past year amounts to £25,361, being £394 less than the gross income for the previous year. The balance of income over expenditure amounts this year to £2329.

THE CALENDAR—NEW FEATURES.

THE present issue of the College Calendar contains many new features. In addition to an historical summary there is a concise account of the foundations of the College lectures and prizes. As not the least important among the improvements of the Calendar may be noted the revision of the list of Members. Much time and attention have been devoted to make the list as complete and as accurate as possible. Only about one-half of the list has at present been revised but it is intended to complete the revision in time for the next issue of the Calendar. There are now on the College roll 1363 Fellows, of whom 1311 obtained the Fellowship by examination; 27 were elected as "Members of 20 years' standing"; one is a Fellow elected *ad eundem*; and of the original Fellows by election only 24 now remain. There are 17,414 Members, 2046 Licentiates in Dental Surgery, and 578 Diplomates in Public Health.

The College endowments.—For the first time there appears in the Calendar a succinct account of the College endowments, beginning with the Hunterian Oration which dates back to the year 1813. In this year Dr. Matthew Baillie and Sir Everard Home, Bart., executors of John Hunter, "being desirous of showing a lasting mark of respect to the memory of the late Mr. John Hunter," gave to the College the sum of £1684 4*s.* 4*d.* 3 per cent. consolidated bank annuities for the endowment of an annual oration to be called the Hunterian Oration and to be delivered in the theatre of the College on Feb. 14th, the birthday of John

Hunter, by the Master or one of the Governors for the time being, or such other member of the Court of Assistants as should be appointed by the Master and Governors or any two of them, such oration to be expressive of the merits in comparative anatomy, physiology, and surgery, not only of John Hunter, but also of such persons as should be from time to time deceased whose labours have contributed to the improvement or extension of surgical science. In 1853, after consultation with the representatives of the founders of the trust, it was decided that the oration should in future be delivered biennially instead of annually.

Receipts and expenditure.—With regard to the receipts for the past year the fees for the Fellowship examinations amounted to £2464. The expenses in connexion with the examination, including the examiners' fees, subjects, patients, instruments, &c., amounted to £1970. The examination receipts of the Conjoint Examining Board, of which the College is entitled to one half, amounted to £13,051 and were derived as follows; first examination, £1256; second examination, £1452; third examination, £5066; diploma fees paid by university candidates, £3457; and incidental receipts amounted to £1817. The expenditure in connexion with the Membership examination amounted to £9627. Of this sum the largest item was the fees to examiners which amounted to £4412. The receipts and expenditure of the Diploma in Public Health were respectively £321 and £204, and of the Licence in Dental Surgery the receipts amounted to £2269 and the expenditure to £1052. The general working expenses, including fees to the Council, salaries and wages of the secretarial department, rates, taxes, &c., amounted to £4541. The museum expenses were £2858, while the library upkeep amounted to £1792. The receipts from house property amounted to £700 and from investments to £1221. The dividends in stocks and shares of the Erasmus Wilson bequest yielded £4926.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

City of Nottingham.—Dr. Philip Boobbyer reports for 1905 the lowest birth-rate ever recorded for this city—i.e., 26·4 per 1000, and in this connexion he refers to the growing use of lead as an abortive which his experience in Nottingham has taught him is now much used for this purpose in the shape of diachylon plaster. It is taken, he states, in large quantities and for a considerable period, irreparable and even fatal injury being thus done to the maternal organism. Good work appears to have been carried out at the Bagthorpe isolation hospital during 1905 and as regards the fatality rate of hospital and home treated cases of scarlet fever there was a difference of 1·3 per cent. in favour of the hospital, notwithstanding the fact that 46 of the hospital cases were of a severe type and specially selected for the open-air treatment reserved for such cases. Dr. Boobbyer adds with reference to this treatment: "In my opinion the line of safety and success in dealing with cases of acute specific diseases, among many others, lies in the direction of open-air treatment. With due precautions against exposure of the person to extremes of temperature and wet the results are excellent. There are no drawbacks, so far as I am aware, except those which arise from the natural prejudices of the patients and their friends against a new thing not generally adopted." As regards diphtheria, the fatality rate in hospital was 7·45 per cent., as against a fatality rate of just under 10 per cent. for the cases treated at home. The health department supplies anti-diphtheritic serum gratuitously to medical men attending poor patients, and it is now, the medical officer of health states, somewhat freely injected for protective purposes. He points out, however, that the protection thus afforded frequently does not extend beyond 14 days. Dr. Boobbyer has for several years kept records of the incidence of enteric fever in houses having different methods of excrement disposal and the averages for the years 1887 to 1898 are as follows: Houses with pail closets, one case of enteric fever in 120 houses; houses with midden privies, one case in 37 houses; and houses with water-closets, one case in 558 houses. Some recent investigations relative to the age and sex distribution of fatal tuberculosis among industrially occupied males and females from the age of 15 years and upwards brought out the interesting fact that the death-rate of the males was equal to 2·408 per 1000, while that of the females only amounted to 0·881—i.e., the female death-rate was a little more than a third of the male rate. Nottingham possesses a lethal chamber for dogs, cats, and other animals and during the year 1507 dogs and 548 cats, together with two monkeys, were painlessly put to death.

Metropolitan Borough of Woolwich.—The council of this borough subsidises six beds at the Maitland Cottage Sanatorium for pulmonary tuberculosis and up to June 30th, 1905, 20 patients had passed through these beds, three of which are apparently used for two months' treatment and the other three for four months' additional treatment for such cases as seem likely to benefit by it. At the date of writing his annual report for 1905 Dr. Sidney Davies summarised the results as follows: Five apparently cured, seven much improved, and eight died. He then proceeds: "As it is possible that some of the seven improved will presently relapse it is a question whether the curative results can be considered quite satisfactory, but the educational results have been found altogether good. Those who have returned from the sanatorium have always been found to continue to carry out open-air treatment at home and to take the other precautions, such as sleeping in a separate room, necessary to prevent their infecting others. These precautions can only be very partially taught by the distribution of printed instructions and by visits to the home. It is a question whether it would not be better to further reduce the period of stay at Peppard, for all but selected cases, to six weeks or a month in order to admit a larger number of consumptives." Dr. Davies will, we trust, tell us in his next annual report the after-history of the 12 surviving cases above referred to, as information of this nature from a source such as his is of very great value, and apparently the above comments relate to cases the majority of which had at the date of Dr. Davies's observations only left the sanatorium for a relatively short space of time. Obviously unprejudiced comments and facts such as those furnished by Dr. Davies are much needed. During 1905 one of the wells supplying the borough with water was found to be yielding in October and November from 14 to 140 microbes per cubic centimetre and also to contain an unusually large amount of chlorides. From these facts it is inferred that Thames water was being drawn from the bed of the river through into the chalk, a sufficiently serious matter, more especially from the fact of the presence of so many micro-organisms in a water generally containing so few. Although after a period of rest and a resumption of less exhaustive pumping the water returned to its former purity the circumstance suggests the most careful watching.

Metropolitan Borough of St. Pancras.—Dr. John F. J. Sykes reports that during 1905 the council of this borough decided to adopt the voluntary notification of pulmonary tuberculosis, the usual fee being paid for such notifications. It has been determined that prior to notification the patient's assent should be obtained and that in addition to the notification being regarded as confidential nothing will be done to prejudice the patient's occupation or employment. On the receipt of a notification there is forwarded to the patient not only the usual leaflet relative to preventive measures but also a list of institutions where accommodation of different forms may be procured, as also a form requesting the sanitary authority to disinfect a room previously occupied by a consumptive patient. Beyond this no further action will be taken by the sanitary authority except by special request in writing. No disinfection will be done save on the receipt of the form above referred to, nor will any sanitary inspection ensue as a result of the notification except on special request. Gratuitous examination of suspected sputum is undertaken by the sanitary authority and the necessary swabs and tubes are supplied when asked for.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8665 births and 4422 deaths were registered during the week ending Oct. 27th. The annual rate of mortality in these towns, which had steadily declined in the seven preceding weeks from 22·3 to 14·6 per 1000, was again last week equal to 14·6. During

the first four weeks of the current quarter the death-rate in these towns averaged 15·5 per 1000; the rate during the same period in London did not exceed 14·2. The lowest death-rates in the 76 towns during the week under notice were 5·0 in Northampton, 6·0 in Hornsey, 7·3 in Croydon, and 7·9 in King's Norton; the rates in the other towns ranged upwards to 22·8 in Yarmouth, 22·9 in Middlesbrough, 23·7 in Bootle, and 24·5 in Gateshead. The 4422 deaths in the 76 towns exceeded by three the number returned in the previous week, and included 561 which were referred to the principal epidemic diseases, against numbers declining from 2570 to 591 in the seven preceding weeks; of these, so many as 292 resulted from diarrhœa, while 73 were referred to measles, 69 to diphtheria, 58 to "fever" (principally enteric), 39 to scarlet fever, 30 to whooping-cough, and not one to small-pox. The deaths from these epidemic diseases were equal to a mean annual rate of 1·8 per 1000 in the 76 towns, and to 1·2 in London. These epidemic diseases caused no death last week in Bournemouth, Hornsey, Northampton, or in six other of the 76 towns; whereas the highest death-rates therefrom were 5·5 per 1000 in Oldham, 6·0 in Rotherham, and 6·1 both in South Shields and Burnley. The deaths referred to diarrhœa (mainly of infants), which had declined in the seven preceding weeks from 2342 to 349, further fell last week to 292, but caused annual death-rates exceeding 3 per 1000 in Gateshead, Blackburn, Middlesbrough, and Burnley. The 73 fatal cases of measles showed a further increase upon recent weekly numbers, and showed the highest rates of mortality in Rotherham, Norwich, and South Shields. The deaths referred to fever exceeded the number in the previous week by 13, and showed the largest proportional excess in Wigan and Bolton. The greatest fatality from diphtheria occurred in Rochdale and Leyton; from scarlet fever in Blackburn; and from whooping-cough in Swansea and York. No case of small-pox was under treatment in the Metropolitan Asylums hospitals during the week, no case of this disease having been admitted thereto since the end of June. The number of scarlet fever cases under treatment in the Metropolitan Asylums hospitals and in the London Fever Hospital, which had increased in the eight preceding weeks from 3042 to 3923, further rose last week to 4068; 542 new cases were admitted to these hospitals during the week, against 621, 566, and 548 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 137 and 146 in the two previous weeks, rose again last week to 150, but were so many as 138 below the corrected average in the corresponding week of the four preceding years, 1902–05. The causes of 44, or 1·0 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, West Ham, Salford, Hull, Newcastle-upon-Tyne, and in 49 other smaller towns; the proportion of uncertified deaths showed, however, a considerable excess in Birmingham, Sunderland, Rotherham, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 17·8 and 15·8 per 1000 in the two preceding weeks, rose again to 16·3 in the week ending Oct. 27th, and exceeded by 1·7 the mean rate during the same week in the 76 English towns. The rates in the eight Scotch towns last week ranged from 12·6 and 12·8 in Leith and Aberdeen to 17·4 in Dundee and 17·7 in Greenock. The 558 deaths in the eight towns showed an increase of 18 upon the number in the previous week, and included 75 which were referred to the principal epidemic diseases, against 96 and 78 in the two preceding weeks. These 75 deaths were equal to an annual rate of 2·2 per 1000, which was 0·4 above the rate from the same diseases in the 76 English towns. Of these 75 deaths, 40 resulted from diarrhœa, 12 from whooping-cough, eight from "fever," eight from diphtheria, six from measles, one from scarlet fever, and not one from small-pox. The deaths referred to diarrhœa, which had been 56 and 47 in the two previous weeks, further declined to 40 last week, and included 22 in Glasgow, eight in Edinburgh, and three both in Dundee and Greenock. Of the 12 fatal cases of whooping-cough, nine occurred in Glasgow; and of the eight of diphtheria, four were returned in Glasgow and two in Paisley. Measles caused three of the six deaths in Glasgow and two in Aberdeen. All the eight deaths referred to "fever," of which six were certified as cerebro spinal fever, were returned in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had steadily increased in the four preceding weeks from 66 to 97, further rose last week to 102, but were 47 below the number returned in the corresponding week of last year. The causes of 21, or 3·8 per cent., of the deaths registered during the week were not certified; the mean proportion of uncertified deaths in the 76 English towns during the same week did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 26·0, 23·7, and 21·7 per 1000 in the three preceding weeks, further declined to 21·6 in the week ending Oct. 27th. During the first four weeks of the current quarter the death-rate in the city averaged 23·3 per 1000, the mean rate during the same period being only 14·2 in London and 15·3 in Edinburgh. The 157 deaths of Dublin residents during the week under notice showed a further slight decline from the numbers in recent weeks, and included 15 which were referred to the principal epidemic diseases, against numbers declining from 52 to 21 in the seven preceding weeks; these 15 deaths were equal to an annual rate of 2·1 per 1000, against 1·2 and 1·4 respectively from the same diseases in London and Edinburgh. These 15 deaths from epidemic diseases in Dublin included eight from diarrhœa, three from "fever," two from measles, two from whooping-cough, and not one either from small-pox, scarlet fever, or diphtheria. The fatal cases of diarrhœa showed a further decline from recent weekly numbers; and the deaths referred to "fever" were also fewer than in either of the two previous weeks. Eight inquest cases and six deaths from violence were registered, and 65, or 4·1 per cent., of the deaths occurred in public institutions. The causes of seven, or 4·5 per cent., of the deaths registered during the week were not certified; the percentage of uncertified causes of death last week did not exceed 0·1 in London, while it was 7·6 in Edinburgh.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeon H. L. Geoghegan to the *President*, for three months' course at West London Hospital.

ROYAL ARMY MEDICAL CORPS.

Captain B. Watts and Lieutenant-Colonel C. W. Johnson have left Woolwich. Captain Francis S. Irvine is seconded for service under the Colonial Office (dated Oct. 13th, 1906). Major C. W. Reilly, from Dublin, is appointed to Athlone, to succeed Lieutenant-Colonel Hennessy. Lieutenant-Colonel A. A. Sutton, D.S.O., is appointed to the Royal Herbert Hospital, Woolwich.

ARMY MEDICAL SERVICE EXAMINATION.

An examination of candidates for not less than 30 commissions in the Royal Army Medical Corps will be held on Jan. 24th next and following days. Applications to compete should be made to the Secretary, War Office, London, S.W., not later than Jan. 14th, 1907, on which date the list will be closed. The presence of candidates will be required in London from Jan. 22nd, 1907.

DEATHS IN THE SERVICES.

Deputy Surgeon-General Daniel Macqueen, A.M.D. (retired), on Oct. 21st, at his residence at Edinburgh. He entered the service as assistant surgeon in 1850, was promoted surgeon in 1858, and surgeon-major in 1870, retiring with the honorary rank of deputy surgeon-general in 1877.

Lieutenant-Colonel Abraham William Bate, A.M.S. (retired), at Tregenna, Sundridge Park, Bromley, Kent, on Oct. 21st, aged 64 years. He entered the service in 1865, became surgeon in 1873, surgeon-major in 1877, and retired with the honorary rank of brigade-surgeon-lieutenant-colonel in 1885. He served in the Soudan Expedition, 1885, being present at the action of Suakim (medal with clasp and Khedive's star).

A WAR RESERVE OF PHARMACEUTICAL OFFICERS.

Surgeon-General George J. H. Evatt, C.B., late Army Medical Staff, has in the *Pharmaceutical Journal* of Oct. 13th suggested a scheme to provide for the formation of a reserve of 50 pharmacists as commissioned officers who would be available for active service in the military hospitals in time of war. The officers chosen should pass a physical examination and should be under a certain age, say, 30 years. It is suggested that they should receive a grant of £25 for uniform, as for Volunteer officers. They should go through a small number of drills and receive ambulance instruction with a Volunteer bearer company or at the Aldershot Depôt, Royal Army Medical Corps. The scheme provides for a certain amount of duty per year in a military medical store or hospital to learn the methods of issuing and receiving medical stores and medicines in peace and war. All officers would join with the rank of second lieutenant and be promoted to lieutenant and captain after five and 15 years respectively. It is suggested that the senior officer of the pharmacy reserve should be given a major's commission. Surgeon General Evatt also suggests a reserve retention fee, say of £25 a year, the engagement to be renewable every three years, and further elaborates the scheme in regard to matters of pay when called up for active service, pensions, sick leave, widow's pensions, medals, decorations, and so forth. He is of opinion that such a reserve of educated and fully qualified pharmacists should be organised without delay in order to avoid a repetition of the confusion that existed during the South African war, when pharmaceutical appointments were made on terms which were neither satisfactory to the pharmacists concerned nor calculated to attract the best men to the service.

MR. HALDANE ON ARMY REFORM.

The Secretary of State for War in his recent speech at Colchester laid down general principles with which all will agree, but notwithstanding his assurances that the Government has not the smallest notion of reducing the fighting efficiency of the army the fact remains that so far there has been a reduction in the numerical strength of efficiently trained troops available. We must be content to wait for some forthcoming explanation. When the spring comes it would, said Mr. Haldane, be the duty of the Government to declare its policy with regard to the army as a whole and to put forward its scheme of organisation. We have no doubt about the earnestness and energy which Mr. Haldane is bringing to his task and hope that he will not lose sight of the very important nature of the sanitary and medical aspects of the problem with which he is dealing.

MEDITERRANEAN FEVER AND GOATS' MILK.

The naval and military authorities at Malta are giving effect to the report of the Mediterranean Fever Commission, attributing the disease known as Maltese or Mediterranean fever largely to the presence of the micrococcus Melitensis in goats' milk. The use of goats' milk has been discontinued with good results in all the military and naval hospitals and in all the barracks except one. Orders have been issued that in the civil hospitals the milk is to be boiled before being used, and an endeavour is being made to persuade the general public to adopt the same precautions.

Correspondence.

"Audi alteram partem."

AN EXTRAORDINARY CASE OF POISONING BY MORPHINE.

To the Editors of THE LANCET.

SIRS,—I have read with considerable interest the annotation in THE LANCET of Sept. 22nd, 1906, which concludes with these words, in speaking of a case of morphine poisoning: "The symptoms were of a tetanic character, and the usual comatose condition did not develop. This mode of death is fully recognised in fatalities of morphine poisoning, but it is not of common occurrence." I must confess that I was ignorant of this fact, if such it be. May I ask you to hand my note to the collaborator who prepared this annotation in the hope that he will be kind enough to send me a reference, either in literature or in his personal experience, as to this statement.

I am, Sirs, yours faithfully,

Philadelphia, Oct. 15th, 1906. H. A. HARE.

*** Dr. Hare will find references such as he desires by consulting the following work:—"Legal Medicine (in India) and Toxicology," by Major Collis Barry, vol. i., second edition, p. 465; vol. ii., p. 503, *et seq.* Thacker and Co., Limited, Bombay.—ED. L.

THE PATHOLOGY OF SCIATICA.

To the Editors of THE LANCET.

SIRS,—Some three years ago you did me the honour to publish a paper on the disease known as "sciatica." While not quite hoping to convince your readers that every single case of sciatica is due to trouble in the hip-joint, I ventured to ask doubters as to the correctness of my views of the real pathology of that complaint to examine each patient systematically in order to discover whether the hip-joint on the particular side affected was or was not affected in the manner I had insisted it would be found to be.

I wish, Sirs, to ask you to allow me to repeat this advice, as I have been much impressed lately by the evidence I have come across to the contrary—viz., the mistake of resting satisfied by terms such as "lumbago" and "sciatica." We are all too much inclined, from mental laziness I fear, to over-generalise and to found our diagnosis and treatment on settled opinions, while too seldom ready to study thoroughly, point to point, the individual case we have before us.

With your permission I shall shortly describe an example of this unfortunate blunder. A few days ago an elderly man came to my rooms to consult me, walking on two sticks. His account of himself was that he had been ailing for fully four years, beginning with pains in the back and shooting down his thighs. He consulted a bath physician, took waters, and was systematically douched with no improvement. By and by he saw another spa doctor, who cursorily examined him and prescribed some medicines. And so matters went on till he came to me. I had him stripped and properly examined when I found that he could flex his right thigh on the abdomen only to the extent of 90°, that the power of rotation was entirely gone, the nates thin, and the glutei wasted, with some wasting also of the muscles of the thigh. There was still present slight but well-marked tenderness on pressure over the capsule of the joint on that side. As regarded the left leg, the buttock was much firmer and there was a limited amount of circumduction, flexion being fairly full. Tenderness on pressure over the joint could be easily elicited.

Now here is a man practically lamed for the remainder of his life, and I do not hesitate to affirm that this so-called double rheumatoid arthritis of the hip-joint and consequent ankylosis with proper steady massage might, if not cured, at least have been stayed in its fatal progress. Why, Sirs, were not the means used to insure this latter happy result? Not certainly because the two previous doctors were not as fully competent as myself—nay, perhaps more competent—but simply because they did not take the trouble to examine their patient systematically and thoroughly, misled, as I have said, by an erroneous pathology and leaning on words—mere words—trusting to books and not to their own brains to keep them right.

I may have said enough in the way of fault finding with my medical brethren. With your leave, however, I would venture once more to point out how easily a parallel mistake may occur in the so-called neuritis of the arm. In every case of this complaint diligent inquiry and examination should be made as to the physical condition of the limb affected and more particularly of the shoulder-joint. Gouty arthritis of the shoulder is exceedingly apt, I find, to be missed, mainly because the patient does not complain of pain in the articulation itself and has not observed any limitation of its movements. Placing one's hand on the scapula and keeping that bone in its place, elevation of the limb affected at once reveals in many of these cases of neuritis more or less (false) ankylosis of the shoulder-joint. Circumduction and rotation limited in extent and, generally speaking, tenderness on pressure over the front and thinner portion of the capsule are often quite decided signs of disease of the nature indicated.

This year a lady patient of mine who, when I treated her

here some years ago, could not put off or on her gown by herself, consulted me about another ailment—she is now 80 years of age. I was delighted to find her shoulder-joint all right, the undoubted result mainly of skilled massage aided by the internal use of the sulphur waters and the outward application of baths and warm douches. What would have been the condition of this lady's arm *now* I leave to your readers to imagine, had the complaint not been taken in hand and strenuously treated at an early stage.

I am, Sirs, yours faithfully,

Strathpeffer, Oct. 27th, 1906. WM. BRUCE, M.D. Aberd.

THE RELATION OF DENTAL CONDITIONS TO PULMONARY TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—In your annotation in THE LANCET of Oct. 20th on the above subject you deal with the interesting conclusions of Mr. F. L. Dodd and Mr. H. B. Ezard as to oral sepsis in consumptives and its causes. These results, of course, give rise to speculations as to the evidence they afford of generally depressed health, whether from weakness of constitution or unfavourable surroundings, as also of that tendency to decalcification described by French observers. They naturally suggest, too, indications—which, in my experience of sanatoriums, are, having regard to practical considerations, fairly well recognised—for treatment. But may I suggest to Mr. Dodd and Mr. Ezard that the share which dental surgery may claim in the treatment of pulmonary phthisis does not begin and end with the conditions they describe? If they will devote their skilled attention to the matter they will find, I am sure, much more readily than was done lately (as described in the *British Medical Journal*, June 16th, 1906), that the proportion of those showing protrusion and irregularity of the upper teeth (with consequent inability to keep the lips closed) is much higher in consumptives than in the non-tuberculous. In fact, I think they will be led, as I was, to the conclusion that undue oral respiration is, to say the least, a very common antecedent to pulmonary phthisis.

Two cases of possible interest to dental surgeons may be quoted. The first was a man who had probably suffered from adenoids in childhood, for he was "overhung" and had the narrow palate, collapsed nostrils, and chronic mouth-breathing associated with that complaint. When, some years before falling ill with phthisis, he was provided with false teeth, one natural tooth only was left in the front of the upper jaw. It was a "buck" tooth, projecting at an angle which made it impossible for the upper lip to close over it, except by a distinct muscular effort. The artificial denture had been made to conform to this tooth with the result that normal nasal respiration, which might perhaps have been furthered by another arrangement—here, of course, I speak as a layman—was henceforth for this man out of the question. In the second case oral respiration was a good deal checked by the replacement of a single projecting tooth by an artificial one in line with its neighbours. The matter does not end with treatment, of course. It is believed that an important part of the future prophylaxis of pulmonary phthisis will be the promotion of normal nasal respiration; and that in such promotion rhinology and dental surgery will take a large share.

I am, Sirs, yours faithfully,

Crossley Sanatorium, Oct. 21st, 1906. W. C. RIVERS.

LEPROSY SEGREGATION IN CAPE COLONY.

To the Editors of THE LANCET.

SIRS,—Will you allow me to avail myself of your world-wide circulation in order to draw the attention of all whom it may concern to the fact that the attempt to repress leprosy in Cape Colony by compulsory segregation has proved a lamentable failure. The report of the Health Department for the Colony for the years 1904–05 is now before me and it has doubtless been sent to you also. The chapter devoted to leprosy is a melancholy one. It admits that the disease is steadily increasing; that Robben Island and the Emjanyana Asylum are no longer adequate to receive those whom the law empowers them to claim. The demand is now made for more of these leprosy prisons. I can call them by no milder name than "prisons," for their inmates are captured by the police and, with but very few exceptions, are confined for life. It is exactly a century and a half ago since the first sufferers from leprosy in the Colony were recognised. They were on a Dutch farm near to Capetown, and were only three in number. The use of salted fish as food had become common a little earlier and was increasing every year. In the early part of last century under English rule a small voluntary segregation home was formed in an inland valley "Hemel-en-Aards," not far from the capital. Between 1816 and 1845 500 patients were admitted there. In the latter year additional accommodation was obtained on Robben Island, and in 1892 an Act was passed enabling the authorities to apprehend all subjects of the disease and deport them to that desolate spot. That Act was ruthlessly carried out and from that time onward from five to six hundred victims of it have been resident there. This number has been maintained in spite of a very heavy mortality and with the result that in addition to those under confinement upwards of a thousand of leprosy patients are now at large in the colony for want of accommodation for their confinement.

In my book on "Leprosy and Fish-eating" I ventured, I fear almost rudely, to compare those who would enforce segregation to the wise men of Gotham who built an enclosure in which to keep a cuckoo. The bird flew over the wall. "But," said they, "it only just got over; if we had built a yard higher it could not have got out." And so they went on year after year building higher and higher but without success. This, so far as I understand the question, is precisely what the Cape Colony authorities have done and still wish to persevere in doing. Hemel-en-Aards was not big enough and Robben Island was inaugurated and it being not enough Emjanyana was constituted and to it was added an asylum at Pretoria. After adducing figures, which show that the disease has been steadily increasing all over the Colony, the medical officer of health sums up: "At the present time there cannot be less than a thousand lepers at large," and adds "The cause of this large number of unsegregated lepers is the total inadequacy of the present asylum accommodation." He further writes: "The Leprosy Repression Act has now been in force for the last 15 years, but, so far, no sensible diminution of the stream of lepers annually coming to light has been made by its operations." Yet additional facilities for "repression" are urgently demanded and no other measures are even discussed. Are the authorities of Cape Colony one whit wiser than their predecessors of Gotham?

I am, Sirs, yours faithfully,

Cavendish-square, Oct. 24th, 1906. JONATHAN HUTCHINSON.

CINNAMON OIL IN THE TREATMENT OF INFLUENZA.

To the Editors of THE LANCET.

SIRS,—I notice in the daily press that the learned in such matters are prophesying that we may probably have to undergo another visitation of influenza this autumn, and as these vaticinations may possibly turn out to be correct I am prompted to ask you to allow me space in your columns again to call the serious attention of your readers to the excellent results that, as far as I can judge, follow if influenza is treated systematically with cinnamon oil.

For nearly 16 years I have employed cinnamon in various forms in treating this disease, but for many years now I have always used the oil of Ceylon cinnamon bark. There is another oil of cinnamon on the market, extracted, I believe, from the leaves of the plant, which though rather cheaper should be avoided and the oil of cinnamon bark only should be used. We all of us have heard only too often of sad cases of influenza where the unhappy patients have been confined to their beds or their rooms for a fortnight, three weeks, a month, or even longer. Such a long detention on the sick list cannot be a pleasant experience and I am perfectly convinced that it ought never to occur. I employ these words advisedly. For I altogether decline to believe it can be ascribable only to a singular series of coincidences that now for nearly 16 years, during which time I have invariably treated influenza with cinnamon, my patients have generally been perfectly fit to return to their avocations, whatever they may have been, within three or four days, and that in no single case has a patient suffering from

influenza been on my hands for more than the inside of a week.

The treatment for which I suggest a fair trial, and which I invariably adopt, is abundantly simple and is as follows. Let the influenza patient take 12 drops of cinnamon oil and repeat the dose in an hour; two hours after this second dose let the patient take ten drops of the oil, and then let him go on taking ten drops every two hours without intermission till the temperature falls to normal. And after the temperature has fallen to normal, or possibly a little under, let the patient take *ten* drops of the oil three times a day for a day or two. In every disease, probably, the sooner the patient is placed under treatment the better, and this is pre-eminently the case in influenza. And if a patient suffering from this disease is systematically treated with cinnamon oil in the manner above described within three or four hours from the onset of the disease I think it will probably be found that the temperature will have returned to normal within 12 hours; but if the patient is not put under treatment for a couple of days it will probably be at least 24 or 30 hours before the temperature becomes normal. After the temperature has fallen to normal the patient should remain in his room for at least 24 hours and if possible should remain indoors for a further period of two or three days. But many cases that had been submitted early to treatment, cases of robust persons under 40 years of age and whose engagements were pressing, I have permitted to return to their occupations after only 24 hours' rest, and so far without any untoward result. But I always advise that patients should remain indoors for two or three days if they possibly can. Especially should they be urged to do so in those cases where the disease has been allowed to run for a day or two before being submitted to treatment. Each dose of cinnamon oil should be taken in half a wineglass or a wineglass of water to lessen its pungent taste.

It is hardly necessary for me to add, perhaps, that Ceylon cinnamon bark oil can be easily obtained from any respectable druggist in any town.

I am, Sirs, yours faithfully,

JOSEPH CARNE ROSS, M.D. Edin.

Withington, Manchester, Oct. 23rd, 1906.

"GRAPH" PAPER.

To the Editors of THE LANCET.

SIRS,—May I call the attention of those of your readers who are interested in school hygiene to the evils likely to accrue to the eyesight of school children from the use of "graph" paper? Even under the most favourable conditions of light and posture and with the best of eyesight the ocular strain involved in counting the squares is intense, and I am sure that where such conditions do not exist the children are having sown for them the seeds of future trouble. The use of "graph" paper is now customary even in preparatory schools; and boys of 12 years or under are set work requiring the closest attention to secure accurate results. It certainly seems a retrograde step, now that the printing of school books has so improved, to make this new demand on the eyesight of the young. Moreover, the evils so often complained of in the use of small type are accentuated in this solving of problems on squared paper, as in the former case the eye does not take exact account of each separate letter after the art of reading has once been acquired, whereas in the latter each square has to be individually appreciated. As the squares are uniform there is no rest for the eye, and one moment of relaxation necessitates a recount—i.e., a renewal of the strain. I inclose for your inspection two samples of graph paper now in the market. You will see that the squares are respectively one square millimetre and less than $\frac{1}{10}$th of a square inch.

I am, Sirs, yours faithfully,

MONTAGUE PITKIN, B.A., M.R.C.S.

Earleywood School, Ascot, Oct. 29th, 1906.

COMPRESSED DRUGS.

To the Editors of THE LANCET.

SIRS,—The steady decrease of the general practitioner's income is no doubt due to a variety of reasons, but most certainly the reckless ordering of "tabloid" preparations is one for which the medical man is solely responsible. He orders them in the first instance either verbally or by prescription; they are obtained by the patient in the original bottles, the word tabloid being stamped upon each one, and are readily re-obtained at any druggist's or stores by man, woman, or child.

By ordering tabloids the practitioner is not only damaging his own practice but is giving an excellent advertisement to a proprietary brand, and is acting as a first-rate "traveller" to the wholesale firm whose goods he so constantly pushes. If compressed drugs are desired let them be prescribed as *tabellæ*; do not specify any particular brand but rather send the patient to a reliable pharmacist. We are entirely responsible for the introduction of tabloids; let us become responsible for their disappearance.

I am, Sirs, yours faithfully,

Aigburth, Liverpool, Oct. 27th, 1906. WILLIAM B. BENNETT.

THE CONGRESS AT MILAN AND THE TREATMENT OF INSANITY IN ITALY.

(FROM A CORRESPONDENT.)

SINCE her unification the mental activity of Italy has been astonishing and her contributions to medicine have brought her into the first rank. Let us call to mind how the causes of malarial fever have been explored by the physicians of Rome working alongside of our medical officers in India. My friend the late Dr. Thomas Charles retired from the Indian Army and long practising at Rome acted as the medium of communication between these two distant bands of workers. In the department of psychiatry the contributions that have come from Italy are of the first importance. We have only to allude to the researches of Tamburini and Seppilli on the localisation of the functions of the brain, those of Luciani on the cerebellum, of Albertoni on epilepsy, the microscopic studies of Golgi, the works of Giacomini on the convolutions of the brain and on microcephaly, and the numerous books of Lombroso on criminal anthropology and the pathology of insanity. It was therefore assured that the meetings of the Congress for the Care of the Insane announced to be held at Milan from Sept. 26th to 30th would be attended by many distinguished visitors. Milan, which now counts more than half a million of inhabitants, is the centre of the industrial and much of the intellectual life of Italy. Since the opening of the International Exhibition in April last there has been a great concourse of sightseers and the Milanese have sagaciously taken advantage of the many erudite visitors to organise congresses from the "conclusions" of which they gain light on different questions of the day. About a dozen congresses were reported in the daily journals. The most important was the Congresso Internazionale per l'Assistenza degli Alienati, which has already held meetings at Antwerp and Paris. The managing committee with its active secretaries, Dr. G. C. Ferrari and Dr. P. Gonzalez, had arranged that a reduction of from 40 to 60 per cent. should be allowed on the railway fares of the congressists. Unhappily they could not prevent the hotel keepers from doubling their charges, and they had to exert themselves to procure accommodation for the 300 members of the Congress. The larger proportion were Italians, but there were many French, Swiss, and Belgians, 30 German medical men, and representatives from other countries of Europe and America. The foreign languages allowed were French, German, and English, but readers of papers in these two last were little listened to.

I may remind your readers that in his opening address to the Twelfth Congress of the Società Freniatrica Italiana held at Genoa in 1904, the President, Dr. Augusto Tamburini, congratulated the society that it had secured the passing of a law which withdrew the care of the insane from the bonds of the old local customs and laid down general rules for the whole of Italy. For this they had to thank the exertions of the society and the powerful aid of Professor Leonardo Bianchi in getting the several clauses passed through committees and finally through the Chamber of Deputies. By this law the power of the superintendents to regulate the organisation of the asylum has been clearly defined and established, the proportion of assistant physicians increased, and special instruction for the last rendered obligatory. Dr. Tamburini admitted that this would entail increased expenses but held out the expectation that these might be repaid by a larger number of recoveries. This hopeful view has been scarcely favoured by experience. The number of the insane

in the asylums is steadily increasing, the recovery-rate is not rising, and the question of finance will be an important factor in restraining improvements. Hopes were entertained that the increasing expenses of the maintenance of the insane might be kept down by the boarding out of chronic lunatics, as practised in Belgium and in Scotland, and the president is disposed to believe that such boarders will be properly treated if some special instruction is given to the guardians, but it is doubtful whether people who are willing to take lunatic boarders into narrow houses will be persons of sufficient education to adopt enlightened views about the treatment of the insane. Their sole motive will be to gain a little money, and no amount of lecturing or printed directions will divert them from making as much as they can out of the patients placed under their charge. Those who receive these boarders generally belong to such decayed industries as crofters and handloom weavers. They are most willing to keep boarders who can do some work, while the comparative freedom of a cottage life reconciles some of the chronic insane to many privations rather than to have to return to the asylum. Though the provisions for the care of the insane and the idiotic in Italy are yet incomplete, they are steadily progressing. In 1902 I had the pleasure of visiting the first school for the education of imbeciles in the Via Pietro Cossa at Rome, under the intelligent charge of Dr. Montesano. It has now been removed to a more commodious building.

The meetings of the Congress were held in the Commercial College, Piazza dello Statuto. Apartments on the lower floor were suitably arranged for the comfort of the members, and on the top storey there was an exhibition of plans, conspicuous among which was an artistic model of the well-known asylum of Reggio-Emilia. After the opening address of the President, Dr. Tamburini, a long paper was read by Dr. Frank of Zürich, who advocated the appointment of an international committee to inquire into the causes of insanity and degeneration, neurotic heredity and intoxications, and to consider the means of prevention and to ask for the coöperation of different governments towards that object. Professor Lombroso said that in his opinion little could be gained by the discussions of such a committee but Dr. Frank's proposal, supported by Dr. Bianchi of Naples and others, was eventually adopted and 33 members were named, comprising representatives from Italy, France, Germany, Austria, Hungary, Switzerland, Holland, Belgium, Spain, Portugal, the United States, and Brazil. The British members nominated were Dr. R. Percy Smith and Dr. W. W. Ireland. Dr. Tamburini was elected president, Dr. Cesare Ferrari of Bologna was elected secretary, and Dr. Lombard offered his château of Trevano at Lugano for the meetings of the International Committee which was gratefully accepted.

The general subjects discussed at the Congress were the care and after-care of the insane, the education of the attendants, colonies for chronic patients, epileptics, criminals, and drunkards, and the treatment and training of idiots and imbeciles.

On Sept. 28th the Congress made an excursion to the great Asylum of Mombello, about 11 miles from Milan. It is situated on an eminence looking down upon the flat plain of Lombardy, with the Alps on one side and the faint outline of the Apennines on the other. The separate blocks of the asylum occupy an area of 109,440 square metres, with grounds comprising 119,210 square metres, the whole surrounded by a wall 10 feet high and 2160 metres in circumference. Without there are 48,220 square metres of cultivated ground and 19,000 square metres of shrubbery. Mombello has been in use for the reception of the insane for 40 years. The number resident in 1879 amounted to 1484; in 1905 it had risen to 2600. The admissions in 1879 were 403; in 1905 they were 857. The average of those who were dismissed improved or cured, in relation to the number of admissions, was in 1879 44·66 per cent.; in 1905 it had hardly varied, being 44·82. The death-rate had also remained about the same, being about 10 per cent. It was noted that one-third of the deaths were dependent upon alterations of the nervous centres. We saw several cases of pellagrous insanity, a form not met with in British asylums; it is caused by the use of maize, unripe or improperly dried, as ergotism is caused by eating bread from spurred rye. At this time there was a congress sitting in Milan to consider what could be done to prevent this scourge. It was proposed that power should be given to restrict and to regulate the cultivation of maize. The evil seems to consist in growing maize in districts too cold for this grain to ripen. The patches of Indian corn which we saw in passing through Lombardy were poor and stunted, not one-third the height of the fine crops in India or the United States; in fact, where the maize ripens thoroughly there is no pellagra. The ignorant peasantry who believe pellagra to be "a disease of misery" are little disposed to adopt means of prevention. One may recall that in the great epidemic of ergotism in Hesse in 1882 which sent so many patients into the asylums, the peasantry went on grinding the spurred rye into their bread, although it would have paid them to pick it out and to sell it to the apothecary. It is not clear whether pellagra is increasing in Lombardy. About 10 per cent. of those affected become insane and are sent to the asylums; in some cases there are typhoid symptoms and the sinking is so rapid that the patients die before they can be received into the asylum. The admissions from pellagrous insanity in 1879 were 89; in 1905 they were 62. Since 1879 there have been 2858 admissions from pellagrous insanity to Mombello; from 1901 to 1905 there were 83 deaths in the asylum from pellagra, and 14 deaths from collapse following this form of poisoning. The mortality from pulmonary tuberculosis during the same period was 78. Admissions from alcoholism are not so frequent, as the Italians are a sober people, like all nations who drink wine instead of distilled liquor. In 1879 there were admitted from this cause 26 men and one woman; this was about 12 per cent. of the total number of admissions. In 1905, 116 men and 11 women were admitted for insanity due to drunkenness, that is about 23 per cent. of the total admissions. The porportion of women so affected was no greater than 1 per cent. It may be here noted that the patients in the asylum are allowed light wine as it is found difficult to break the daily habits of the people. In the space of 24 years the number of alcoholics admitted into the asylums of Italy had risen from 207 in 1874 to 1387 in 1898. The districts in which this form of insanity was found most frequently were Latium, Liguria, Piedmont, and Lombardy. In the south of Italy and in Sardinia over-indulgence is rare. The consumption of intoxicating drinks has also been increasing. The mean yearly amount of such liquors calculated in pure alcohol was 7·41 litres in 1880; in 1892 it had mounted to 11·42. Dr. Verga fully recognises the value of employment in diverting the thoughts of his patients and in keeping up habits of industry which are of importance after recovery. About 35 per cent. of the patients under treatment do some work, whether in the fields or at various trades.

On Sept. 30th the Congress finished with an excursion to the Swiss asylum of Mendrisio and Lake Lugano. The cantonal asylum of Mendrisio is situated on an eminence in a wide valley. It comprises 20 separate blocks handsomely built and standing in ample grounds. Opened in 1898 it is still bright and new, with the best modern appliances. The superintendent, Dr. Paolo Amaldi, has a population to deal with who are neither plagued by pellagra nor cretinism. The number under treatment was 143 males and 101 females.

Next morning the congressists scattered, bearing with them a libretto permitting them to travel at half price on all the railway lines of Italy up to Oct. 28th. They were also furnished with a map in which all the asylums were indicated by round dots and a promise of entry to all the public institutions in the country. Our party went to see the Asylum of San Servolo, which is situated in an island near Venice; the whole area is given up to male patients, the female lunatics having another islet to themselves. We were kindly shown round by Dr. Perugia who has 558 patients under his charge. Much attention is given to hydrotherapeutic arrangements, prolonged baths combined with electric currents, induced and interrupted; indeed, the arrangements for baths of various kinds were of the very first class. The wards, lighter, newer, and more cheerful-looking than those at Mombello, were equally destitute of furniture; in fact, there was nothing save beds. The bedding was quite sufficient and there were heating arrangements which must be most acceptable during the four cold months. We passed through a large number of wards, all clean and in good order, and several airing courts separated by light railings. There is no need of an inclosing wall as the lunatics can only escape by swimming; two, however, escaped in that way and one was drowned. There were some cases of pellagra and several idiots, one a microcephale whose scalp, intended for a bigger skull, hung loosely in folds. Dr. Perugia said that the tuberculous cases were separated from the rest and that there were some good rooms put apart for better class patients,

who were charged 5 lire a day. The patients are allowed a little wine, there was very good bread, and we had some polenta which did not taste ill. As was the case with all the asylums which we visited, the laboratory was found to be finely equipped with arrangements for medical research. Even in the wards for the most refractory there were few excited. The patients seemed well fed and cared for and their demeanour was more suave than is the case with our rougher northern folk. In one place there was hung a grim array of chains, manacles, and fetters—memorials of harsh treatment long since done away with. This recalled a passage in Julian and Maddalo, written in 1819, in which Shelley recorded a visit to an asylum at Venice:—

> A building on an Island, such an one
> As age to age might add, for uses vile,
> A windowless, deformed, and dreary pile,
> And on the top an open tower, where hung,
> A bell, which in the radiance swayed and swung.
> We could hear its hoarse and iron tongue,
> The broad sun sank behind it, and it tolled,
> In strong and black relief. "What we behold,
> Shall be the madhouse and its belfry tower,"
> Said Maddalo, "and even at this hour,
> Those who may cross the water hear that bell,
> Which calls the maniacs, each one from his cell,
> To vespers."

The visit is thus described.

> We
> Through the fast falling rain and high wrought sea
> Sailed to the Island where the madhouse stands.
> We disembarked. The clap of tortured hands,
> Fierce yells, and howlings, and lamentings keen,
> And laughter where complaint had merrier been
> Accosted us.

It need not be forgotten how much lunatics suffered about this time from neglect and harsh treatment in Bedlam and other English asylums. Dr. Chiarugi of Florence has a right to share with Pinel and William Tuke the credit of having begun a milder and more enlightened treatment of the insane. He was also one of the leaders in the reorganisation of the Venetian Asylum of San Servolo.

SANITATION AND THE MARSEILLES COLONIAL EXHIBITION.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Marseilles, Oct. 24th.

THERE are many reasons likely to tempt those who are passing through Marseilles to linger a while so as to visit the Colonial Exhibition. If, however, such travellers are only interested in technical exhibits relating to medicine and hygiene they will not find enough at the exhibition to justify any serious sacrifice of time or money. But while there is a constant flow of passengers through Marseilles going to, or coming from, the Far and the Near East, the approach of winter brings with it the annual flight of health and pleasure seekers who from the north make for the winter stations of the French and Italian Riviera. The weather here is so mild that the summer prolongs itself into the winter months and the exhibition remains open during the month of November. Thus those who are about to winter in the south will still be in time and, now that Marseilles is properly drained, may well venture to halt for a few days in this cheerful and animated city. Though this is a colonial and not a medical or scientific exhibition there are a few objects of special interest. Indeed, this arises out of the fact just mentioned, that now there is a drainage system enforced by law at Marseilles. It will interest the technician to see how the local manufacturers have profited by this circumstance; in other words, how they have supplied the want which the law has created. It must be borne in mind that not many years ago there were 13,000 houses at Marseilles which had no closets of any description whatsoever; and where closets existed they drained into cesspools or pails, and with but rare exceptions such things as syphon traps, a two-gallon flush, and other essentials to good drainage were utterly unknown. Now we find not only the importation from England of sanitary appliances but some very excellent French imitations of the same. In the main building and in the gallery farthest from the principal entrance these exhibits will be found. Here Messrs. Jacob Delafon et Cie. of Paris show some white enamelled sinks and closet-pans that look like porcelain, so bright and beautiful is their colouring. But at Marseilles itself there are some good manufacturers, notably J. B. Pons et Cie., who supply the State, the railway companies, and the city of Marseilles with automatic flush tanks, closets and syphons, compressed cement for water-tight flooring, bath-room fittings, and tessellated tiles. Close by M. Fortuné Nel, also of Marseilles, replaces the latter with enamelled zinc. The zinc plates can be applied to the surface of a wall and serve the same purpose as tiles, though some 30 to 40 per cent. cheaper. If the wall is not damp they will remain in position indefinitely and the surface, of course, is always washable. The cost is from 4*s.* the square metre upwards, according to the artistic character of the design. This and several other firms provide all the fittings and apparatus for bath-rooms, closets, kitchen sinks—in fact, all that is necessary for good domestic sanitation. There did not seem to be anything new in these designs and I had no means of making experiments to test the efficacy of their working. There were a lightness and an elegance about them that testified to their being the workmanship of French artisans. Also there were here many exhibits of sanitary furniture. This is more particularly useful in hotels where the beds and furniture should be non-porous and washable throughout. It is a great advantage to have these things frequently exhibited and it is pleasing to note that such object-lessons are bearing fruit. The public does seem to appreciate, at least when away from home and obliged to sleep in strange hotels, the advantage of enamelled surfaces, of a wide open space under an iron bedstead, and the absence of curtains, carpets, and stuffed furniture that harbour dirt and germs. At the Marseilles, as at the Milan, exhibition the introduction of aseptic principles in the designing and making of furniture, notably bedroom furniture, is welcome to occupy a prominent place.

In the main building also there are plans and designs for the further sanitary improvement of Marseilles. Happily, the city has sewers in all the streets and now the law compels the inhabitants to drain their houses into these sewers. Nevertheless, many of the older parts of the town are most insalubrious. This is due to the narrowness of the streets, the great height of the houses, the polluted condition of the soil, the squalor, the poverty, and the overcrowding of the inhabitants. The largest and worst of these districts is the old town, comprised between the old port, the Rue de la République, the Rue Colbert, the Cours Belsunie, and the Cannebière. These splendid thoroughfares surround a terrible district, where the death-rate last year was 32·2 per 1000, though the average for the whole of Marseilles was only 21·41 per 1000 inhabitants. Some 15 years ago the value of the property of this insanitary area was estimated at about £800,000. Since that time, however, there has been shameless speculation in the misery and suffering of the poor. As soon as it became evident that this state of affairs could not indefinitely continue speculators have come forward to buy and to enhance the price of this property. The more worthless the houses the more evident it became that their owners must be expropriated and the houses pulled down, and the higher was the price offered for them. Thus, to-day it is said that the sums demanded for compensation in case of expropriation amount to no less than £1,440,000. In such circumstances the resolution passed by the Congress on Housing, recently held at Geneva, and reaffirmed by the Congress of Hygiene that has just met at Marseilles, is especially appropriate. This resolution proposes that when a house is condemned because of its insanitary condition the value of the house shall be estimated by independent experts. The experts shall also decide how much it would cost to repair or to re-arrange the house so as to render it a perfectly sanitary dwelling. The compensation allowed shall be the value of the house minus the sum that it would cost to put it in thorough repair and to convert it into a healthy dwelling.

The experience of Marseilles shows that such a law is much needed. Here is a district which could have been demolished 15 years ago at a cost of about £800,000 so far as compensation to the owners is concerned. Normally the value of this property should have fallen in this lapse of time, as the inhabitants and the trade tend to migrate to the new, healthier, and more fashionable parts of the town. Instead of decreasing in value, the claims now likely to be brought forward will, as already stated, amount to about £1,440,000. In other words, the taxpayers, the public at large, will be called upon to pay £640,000 to constitute the profits of a few

people who have speculated on the fact that to save the health of the community this insanitary area must be purchased by the municipality and rebuilt. The maps, plans, designs, and statistics shown at the exhibition demonstrate the necessity of such a scheme, but at the same time they excite the greed of unscrupulous speculators and it is high time that the law should render speculations of this description abortive or impossible.

Behind the main building there are wooden structures for mechanical appliances. These relate not only to such local industries as the crushing of olives for oil and grapes for wine but to schemes for reducing the smoke nuisance and various methods of ventilation, of making ice, &c. Here somewhat out of the way, and likely to be missed by many visitors, is the exhibit of what is entitled the Section of Hygiene applied for the benefit of French colonists. It has been prepared by Dr. Mazeran and Dr. Esmonet. First there is a series of maps of the world so coloured as to show the geographical distribution of various diseases, notably paludism, tropical fevers, dysentery, cholera, plague, and so forth. This might serve a good purpose to the intending colonist. He could see at a glance in which parts of the world prevail the forms of disease from which he is most likely to suffer. But of greater use because the information conveyed is less well known is a series of maps of France. These are intended for the benefit of colonists when they return from abroad. From them they will find what are the health and climatic stations in France where they will best be able to recover loss of health arising from residence in unwholesome climates. Finally, should the colonist return to his native country, not only weak in health but poor in purse, there is a series of announcements concerning the sanatoriums suited to his particular disease and the charitable and other institutions that can help him in his financial difficulties. Further, it is hoped that ultimately a system of insurance will be instituted for colonists. Undoubtedly there is here the making of a useful institution, a haven for the returning colonists where they will find systematically collected together all the information which they need. Naturally the administration of the Vichy waters have placed their exhibits amidst those of this institution, so as to show that the Vichy waters are well suited as a remedy for many of the maladies due to long residence in tropical climates.

Thus it will be seen that at this colonial exhibition there are some things of special import to the medical practitioner, apart from the general interest that, in common with all others, he is likely to feel in regard to travel, exploration, and colonisation. Then as a matter of art the exhibition has been admirably planned. M. Müller, the architect of the town of Marseilles and of the exhibition, has displayed much taste and sense of what is appropriate. He has artistically drawn together that which matched best. Cambodia, Cochin China, and Tongking merge one with the other, while on the opposite side African, Mahomedan, and Moorish structures are clustered near each other. For the Congo there is an extensive dwelling-house so built that the inhabitable parts are high and dry, some 12 feet or more from the soil with its venomous reptiles and its decomposing organic matter. There are also a large number of natives from different parts of the world and various sorts of cattle, sheep, goats, &c., which constitute the wealth of some of the colonies. The symbolism of the ancient religions of the East is occasionally reproduced together with admirable models of the ruins of Carthage and other vestiges of the ancient civilisations of the northern coasts of Africa. Then there are some beautiful plants, palms, and other trees, together with the usual by-shows, such as Moorish cafés, kinematographs, water chutes, and other amusements. All this illuminated by the glorious sun of the south and rendered more pleasant by the warm climate constitutes an exhibition which has not failed to attract and to delight a very large number of visitors.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hospital Sunday and the Hospital Saturday Fund.

Hospital Sunday has come and gone and the results of the collections made cannot, unfortunately, be considered satisfactory, for the returns as at present received show a reduced contribution from a slightly increased number of places of worship, £3039 being the amount collected this year from 66 sources, as against £3692 from 64 sources last year. There can be little doubt that the diminution in the amount is due largely to the very bad weather, for heavy rain and storms of wind prevailed during the whole day. But although the weather may be responsible for the falling-off from the standard attained last year it is not responsible for the fact that the amount collected has not increased to any considerable extent for several years, although in the meantime the size and the wealth of the city have increased considerably. It has been suggested that a committee of each congregation might be formed to organise the collection, and if this suggestion were accepted and generally acted upon there is little doubt that much more money could be obtained, for subscriptions would be gathered from those who were unable to be present at the services. Moreover, it might be urged that if the clergy and ministers were themselves a little more energetic in the matter and if they would all preach sermons dealing directly with the subject, having informed themselves beforehand as to the actual necessity for increased donations, the amount subscribed might be increased. On the other hand, it must not be forgotten that the Hospital Sunday collection is not the only one to which the general public subscribe. There is also the Hospital Saturday Fund and in addition constant appeals are being made for funds for the support of an increasing number of general and special hospitals. But whilst it must be admitted that the Hospital Sunday collection has not realised either expectations or wishes it is pleasant to be able to record an advance in the Hospital Saturday collections, for it appears from the returns now available that the amount collected for the Hospital Saturday Fund reached the total of £19,280, that is, £535 more than in the preceding year, and as this increase is due to some extent to subscriptions from new sources we may hope that Alderman Sir William Cook, the chairman of the executive committee, will attain his desire this year by a further increase which will bring the collection to the £20,000 upon which he has set his heart.

Hospital Saturday at Oldbury.

At the final meeting of the Oldbury Hospital Saturday Committee it was shown that £655 had been collected, of which £596 were subscribed by the workpeople. This on the whole is satisfactory, though the total is £5 less than last year. Out of the sum at disposal £454 were given to the West Bromwich District Hospital and £201 were reserved.

The Housing Problem.

The question of the proper housing of our population, and especially of that part of it which must live in or near towns, is one of the greatest importance in association with the national health, and it is quite clear that until towns have some power in controlling builders, land-owners, and speculators—that is, until they have the power to plan the lines along which they shall grow—the best possible results will not be attained and lives will continue to be sacrificed for money. Councillor J. S. Nettlefold, the chairman of the housing committee, has frequently urged that the necessary powers should be acquired, and it was fitting, therefore, that the first of a series of conferences initiated by the National Housing Reform Council to consider the subject of town planning should be held in Birmingham and that Councillor Nettlefold should be the chairman. Councillor Nettlefold, in opening the meeting, pointed out the failure of model by-laws and the urgent necessity for taking from jerry-builders the power of doing enormous damage to the population. The motion put to the meeting, which was representative of all the surrounding districts, was proposed by Mr. T. C. Horsfall of Manchester, the initiator and fervent advocate of the movement, and was to the effect that "this conference is of the opinion that local authorities should carefully consider whether the present unsatisfactory manner in which new districts are being developed cannot be prevented by intelligent and comprehensive town planning with a view to forming at an early date a series of practical and definite suggestions to be placed before the Local Government Board." Alderman Thompson of Richmond seconded the motion and Mr. George Cadbury and the Bishop of Birmingham having spoken in its support it was carried unanimously. The ultimate object is to secure to large cities the power to control the development of the outskirts and it is most

heartily to be hoped that they will obtain the powers soon, for they are essential if healthy growth is to be attained.

The Medical Officer's Quarterly Health Report.

It is interesting to note how even in health matters our estimates change with change of perspective. During August and September many of us were much concerned at the increase in the death-rate, which was due almost entirely to summer diarrhœa, and we were inclined to think that after all our boasted advances had little or no practical reality. Now we find that although the death roll due to the excessive heat was very large, probably about 773, yet it was less than in many previous third quarters, for on ten occasions in the last 16 years it was higher in the third quarter than it was this year. We may, therefore, congratulate ourselves that the efforts which have been made have not been entirely fruitless and that the improved conditions have diminished the toll of the hot weather, but we cannot doubt that the toll would be diminished to a still greater extent if we could devise some way of teaching the mothers how to take care of their children during the critical time and if we could impress upon them the importance of little details of cleanliness.

Insanitary Areas and Magistrates' Powers.

It appears that under the Housing of the Working Classes Act any two magistrates can inspect an area and if they think it insanitary and unfit for human habitation they may call upon the medical officer to inspect the whole neighbourhood and report to the local authority. Taking advantage of their powers, some of our magistrates have inspected one of the worst areas in the city and have signed a requisition to the medical officer. This setting of the law in motion by the magistrates is quite a new departure, all previous requisitions having been made by 12 ratepayers, and it indicates the desire of the magistrates to do more than merely to hear and to adjudicate upon the cases brought before them. Naturally the magistrates who sign a requisition will not act as judges with regard to any proceedings which may be taken in connexion with the property upon which they have reported.

The Dudley Dispensary and the Dudley Eye Infirmary.

The annual reports of both the above institutions are very satisfactory. The dispensary after having done increased work has completed the year with £30 in hand and its committee can congratulate itself on an increased income. Apparently, however, it views the future with some concern, for the hope was expressed that the dispensary would not suffer by transference of subscriptions to the new Eye Infirmary, which has just successfully completed its first year's work, during which it has treated 955 patients. The fear expressed by the dispensary committee that the appeals of the two institutions might clash is not altogether imaginary, for it is quite certain that the continued multiplication of hospitals, necessary as it is, must make the obtaining of funds increasingly difficult.

Bequests to Local Charities.

By the will of the late Mr. Henry Heaven of King's Norton the General Hospital, the Queen's Hospital, the Royal Orthopædic Hospital, the Eye Hospital, the Institution for the Blind, and the Convalescent Hospital for Children at Moseley will each eventually receive £100, and the will of Mr. Henry Fletcher of Sparbrook gives £25 each to the General Hospital, the Queen's Hospital, the Blind Asylum, and the Deaf and Dumb Institution. Under the will of the late Mr. A. Briscoe of Wightwick, Tettenhall, Staffordshire, the Wolverhampton and Staffordshire General Hospital, the Wolverhampton Eye Institution, and the Wolverhampton and District Hospital for Women will each receive £2000.

Oct. 30th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Port Sanitary and Hospitals Committee: Coping with Infectious Disease.

AT the final meeting for the municipal year of the port sanitary and hospitals committee Mr. John Utting, the chairman, said that the number of instances of importation of the more serious infectious diseases had been rather a high one. Of typhoid fever there had been no fewer than 35 cases imported, the majority of these occurring on western ocean boats. There had also been cases of typhus fever amongst Russian emigrants. Small-pox, which was epidemic during the year in Valparaiso and Buenos Ayres, had resulted in eight cases being landed in Liverpool. It was a matter for congratulation that the efforts of the corporation officers had been so far successful that in no case had any extension of these diseases arisen in the city. The inspection of vessels from plague-infected localities had been continued. One steamer brought three cases of plague into the Mersey which were established by bacteriological examination. Fortunately the precautions adopted in this case resulted in no further extension of that disease. It was now 12 years since plague first made its exit from the district of Yünnan *viâ* Hong-Kong to menace the world, and since that time it had been studied on modern methods and the conclusion had been arrived at that plague in man was closely identified with the same disease in certain rodents. The rat was a factor necessary to its spread and the intermediary necessary to communicate the infection from rat to man was the rat flea. This important conclusion arrived at by bacteriologists impressed upon the corporation the necessity to watch rats closely and constantly all the year round on shipboard whether plague were present or not. The methods employed included the catching of rats continuously on all ships from infected ports. These rats were all sent to the university laboratory for examination. In addition, the ratcatcher, who was an experienced and capable man, reported anything unusual regarding sickness among the rats or any number of dead rats that he might discover on board ship. With regard to the administration of the city hospitals, the work had gone on smoothly and without presenting any features of difficulty. The principal event associated with the year's work had been the opening of the new hospital at Fazakerley. Following upon the opening of that hospital the committee had closed the Priory-road hospital and the Garston infectious hospital, and had been able to put out of commission 100 beds in the Parkhill hospital. During the year they had treated so far 3744 cases of infectious diseases in the corporation hospitals. The average duration of stay was from eight to nine weeks. The numbers and description of the 3744 cases were as follows: scarlet fever, 2533; diphtheria, 533; measles, 343; typhoid fever, 275; typhus fever, 33; and small-pox, 27.

Death from Anthrax.

The city coroner held an inquest on Oct. 27th on the body of a lad, 19 years of age, a horsehair drawer. The evidence showed that the lad, whilst at work on Oct. 23rd, complained of pain and stiffness in the right side of the neck. On the following day the pain increased, when a small red spot was discovered in the same situation. As the pain continued to become severe the deceased left work at noon. As anthrax was suspected by his father, a fellow workman, the deceased was removed to the Royal Southern Hospital, where he became unconscious during the night and died early on the morning of Oct. 26th. The manager of the firm where the deceased was employed stated, in reply to the coroner, that in his opinion the use of gloves to protect the hands was impracticable. For the purpose of the business the firm received consignments of horsehair, manes, and tails from all parts of the world. Upon being asked, could he suggest anything which would be likely to prevent the danger? the witness replied that if the Government insisted upon the hair being disinfected before it came into the hands of the manufacturers it might do some good. A suggestion had been made to the Home Office that a system of purification should be instituted and carried out officially on landing. The medical evidence showed that there was evidence of extreme poisoning of the nervous system generally. Serum was injected but to no purpose. The cause of death was undoubtedly anthrax. The jury, in finding a verdict in accordance with the medical evidence, expressed their desire that the authorities might enter into the question of the practicability of disinfecting the hair before it reached the manufacturers, or that the manufacturers might disinfect the hair before the material was handled by workmen. Mr. Skinner, inspector of factories, who was present at the inquiry, said that the recommendation of the jury would be forwarded to the proper quarter and that the only real remedy against the occurrence of this disease was prohibition of entry of infected material. In the process of disinfection it was likely that the material would be absolutely

destroyed by subjecting it to a heat of 480°, as had been suggested. The Home Office had had the matter under consideration for years and had revised rules for places dealing with hides and skins. Dr. T. M. Legge had himself been abroad to Italy and had seen the place where the anti-anthrax serum was made. He had also studied the question, so that it could be seen that the Home Office had been on the alert. He thought it was hardly fair to say that nothing had been done in the matter. This is the third death due to anthrax which has been recorded in Liverpool during the year.

Oct. 30th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Monmouthshire Water-supply.

IT has been confidently predicted that before many years have passed the Monmouthshire coalfields will employ as many men as are now to be found working in the Glamorganshire colliery districts. The very rapid increase in some parts of the latter county, noticeably in the Rhondda and Aberdare valleys, made it a difficult matter at first to provide healthy surroundings for the inhabitants, for when houses are being erected at the rate of 500 or 600 each year adequate provision must be made for supplying them with water and for carrying away sewage. The sewering of a large portion of the western valleys of Monmouthshire is now being carried out by means of a main trunk sewer which will discharge into the Bristol Channel near Newport. This undertaking is in the hands of the various district councils whose area it will serve. The water-supply of the county is not by any means in a satisfactory state. A few localities are pretty well supplied but the majority are dependent upon indifferent supplies, which means that at any moment untoward circumstances may cause a serious epidemic such as the recent outbreak of typhoid fever at Pontypool, Abersychan, and Panteg, which is only now showing signs of abatement. The county council of Monmouthshire has never been particularly active in connexion with sanitary matters. It has resolutely refused to appoint a county medical officer of health and has taken no steps in the direction of providing isolation hospital accommodation in the county. Notwithstanding this inertia, the council is to be commended for the interest which it is now taking in the water-supply of the county, as shown by the report which it lately commissioned Mr. Baldwin Latham to make upon certain proposals for impounding the water in the upper parts of the county. Mr. Latham's report was considered at a meeting of representatives of the county council and of the district sanitary authorities which was held at Newport on Oct. 29th. He proposes to place three dams across a valley along which flows one of the tributaries of the river Usk. The reservoir thus formed would hold 800,000,000 gallons and it is estimated that there would be a daily supply of water of 4,000,000 gallons. The total cost of the scheme is put down at £730,000. The report did not receive the unanimous approval of those present at the conference and after some discussion a further meeting was arranged. The principal criticisms upon the proposals were that it was unfair to expect those districts where a sufficient supply of water had already been provided to contribute towards the cost of the scheme. The supporters of the scheme were of opinion that it would cost the county an average rate of ½*d.* in the £ for six years, after which it would be self-supporting.

The Abolition of Imprisonment for Contravention of By-laws.

At the annual conference of the Discharged Prisoners' Aid Societies held at Cardiff on Oct. 22nd the chairman of the central committee (Sir Richard Harrington) said that one could not help feeling that the number of offences for which persons could be sent to prison was continually increasing, though a very large proportion of these offences were not of a criminal character. Many local bodies were now empowered to make by-laws for the contravention of which fines could be inflicted. He hoped to see the time when for non-payment of fines imprisonment was got rid of altogether except where the offence was really of a criminal character. He suggested a scheme by which impecunious people who had been fined for non-criminal offences could work out the amount of the fine in some way outside a prison. A man's wages might be impounded or he might be put to some work of public utility. Those who have to administer the Public Health Acts would doubtless be glad if Sir Richard Harrington's proposal could be acted on. Magistrates often hesitate to inflict fines when they know there is no possibility of payment being made, and, on the other hand, when fines which have been levied are not paid it frequently happens that no further notice is taken, so that in either case the delinquent is let off scot free.

The Housing Problem in Cornwall.

At a meeting of the Truro Diocesan Conference, held on Oct. 26th, Mr. William Hammond, surgeon to the Liskeard Cottage Hospital, proposed a motion calling attention to the present unsatisfactory condition of the housing of the poor in Cornwall, especially in country districts, and to the great need of more efficient sanitary inspection and larger powers of compulsion by county medical officers of health, independent of all local authorities. After some discussion, in which Mr. S. G. Vinter, M.R.C.S. Eng., suggested that the appointment of medical officers of health should be permanent and not annual, the motion was carried.

Cornwall County Asylum.

At a meeting of the finance committee of the Cornwall county council, held on Oct. 23rd, it was stated that the extension of the county lunatic asylum had already cost £101,296 and the future estimated liabilities in connexion with the work amounted to £13,340.

The Royal Devon and Exeter Hospital.

In accordance with the ancient custom, the committee, staff, and governors of the Royal Devon and Exeter Hospital attended service at Exeter Cathedral on Oct. 21st. The members of the corporation and other public bodies also attended in state. There was a large congregation and Prebendary Bird in the course of his sermon alluded to the fact that of the £3700 per annum required to maintain the hospital only £1700 could be raised in Exeter and the county of Devon.

Oct. 31st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Sir Dyce Duckworth at the Royal Medical Society, Edinburgh.

THE 170th session of the Royal Medical Society of Edinburgh was opened on Oct. 26th by an address from Sir Dyce Duckworth. The senior president of the society, Dr. J. M. Graham, occupied the chair. Sir Dyce Duckworth referred at some length to his early connexion with the society and to the teachers and teaching in Edinburgh nearly half a century ago. The special topic, however, on which he dwelt was the Dignity of Medicine. He thought it would not be maintained that their profession held to-day the position that it did half a century ago in the estimation of the public. This was not due to any decadence or inefficiency in the art or service of the profession. The fault must lie either with themselves or be the result of an altered disposition towards them on the part of the public. The dignity of medicine was evidenced by its beneficent work as a great social power in any community and by its spreading everywhere a wholesome influence. It was this influence which he thought had declined. In seeking an explanation for this he thought that with respect to themselves the average modern physician was not, as formerly, a man of general scholarship and wide learning, and he recognised how difficult it was to retain the former standard in view of the increase of knowledge in all departments of medicine. It might also be said that some members of their calling failed to commend their profession or its dignity by their inflated pretensions or manner of life or, perhaps, in not a few instances, by an inherent inaptitude to adapt themselves to their varied social environments. He also referred to the fact that anything approaching extortion or greed seriously impaired the regard in which their profession was held and that they might damage their usefulness by embroiling themselves as extreme partisans in political or ecclesiastical matters, forgetting that as physicians they lived in a higher sphere and in a spirit of comprehensive catholicity and charity. He also dealt with some of the aspects of his theme from the side of the public.

Consumptive Cases in Edinburgh City Hospital.

The wards in the City Hospital for the reception of cases of pulmonary tuberculosis were opened on April 20th last and Sir Henry D. Littlejohn reports that since that date 93 applications for admission had been received. Of these 82—41 males and 41 females—had been admitted after investigation and visitation. Reasons for the non-admission of the remaining 11 are given. Of the total cases admitted 35, or 42·7 per cent., had died. Nearly all of the deaths (30) occurred within two months of admission, while the remaining five died within four months. 14 patients left the hospital of their own accord, and of these 11 might be said to have benefited greatly by the rest and treatment. The average daily number of patients had been 23, and the cost of food and stimulants for each patient had been £11 11*s.* 6*d.*, or an average cost of 1*s.* 3½*d.* per day per patient.

Other Public Health Matters in Edinburgh.

The condition of the Lochend irrigation meadows has again been before the Edinburgh town council. Months ago the existence of these meadows in a district that is becoming densely populated was referred to and their existence was then regarded as an anachronism. At present the city is threatened by an action under the Public Health Act which it is trying to avoid by lessening the nuisance, but it seems a pity that it is not at once recognised that the use to which this special piece of ground is put must be entirely changed. In addition to the foregoing there has also been under consideration the question of examining the throats of school children with a view to lessen the amount of diphtheria. A representation to the school board on the matter was agreed to.

General Council of the University of Edinburgh.

The statutory half-yearly meeting of this body was held on Oct. 26th, Principal Sir William Turner occupying the chair. At the previous meeting of council the question of autonomy for the Scottish universities was discussed, and THE LANCET dealt with the question at the time in a leading article.[1] Meanwhile the University Court has considered the question and in reply to the representation from that meeting has expressed general sympathy with the movement for autonomy and has intimated its willingness to consider a further representation from the council on the subject. A subcommittee was appointed to draw up a scheme as a practical basis for discussion. The scheme produced by this subcommittee was accepted by the business committee and at the meeting of council on Oct. 26th it was unanimously accepted as a basis for discussion.

University of Glasgow: Inaugural Address by Professor D. Noel Paton.

At the opening of the winter session at the University of Glasgow Professor D. N. Paton, the newly-appointed professor of physiology, delivered his inaugural address. After referring to the honour that had been conferred upon him by his appointment he paid a tribute to the two previous occupants of the chair, Professor Andrew Buchanan and Professor J. G. McKendrick, two men of very different stamp who each had in his own way shed a lustre upon physiology and upon the Glasgow School. He then proceeded to consider the question of the training of medical graduates and defined the purpose of the medical profession in its widest sense as a great organisation to increase the well-being of mankind and to combat disease. So long as the present apathy towards research work existed in the public mind, so long would the advance of knowledge be slow and faltering. The public must not only give monetary support to men who were devoting themselves to its service in the attempt to gain the knowledge required for the prevention of disease, it must also give them its moral support. The medical profession knew, and they must see that the public also knew, that for the advancement of medicine and surgery experiments on lower animals were necessary. The public gave their sanction to the painful mutilation of animals in order that they might make a more agreeable food or that they might become more docile beasts of burden, and they gave their approval to the infliction of pain in the name of sport. How dared they withhold their sanction to the use of animals for the increase of knowledge by which thousands of their fellow beings might be saved from suffering and premature death? He ventured to think that if the public, instead of feeding a sentimental prejudice on the gross misrepresentations of rabid agitators, would come to their laboratories and see for themselves what this experimenting really meant they would find nothing to make them shrink from giving their approval to that method of advancing knowledge.

Jubilee of Thomas Reid, M.D., LL.D. Glasg.

Last week in the Windsor Hotel, Glasgow, Dr. Thomas Reid was entertained to dinner by a few of his old house surgeons in the Glasgow Eye Infirmary, and presented with an address congratulating him on having reached his professional jubilee and expressing the high regard in which he is held by his professional colleagues. The opportunity was also taken of presenting Dr. Reid with a silver bowl and Mrs. Reid with a silver salver. Dr. George Hunter occupied the chair and Dr. A. Maitland Ramsay acted as croupier. Dr. Thomas Reid was born in the parish of Shotts in 1830. His medical studies were begun in Anderson's College and continued at the University of Glasgow, where in 1857 he obtained the degree of M.D. From the commencement of his studies his favourite pursuit was microscopic investigation, and while assistant to the late Professor Allen Thomson he taught successive generations of students to use the microscope. At a time when the field in this country was almost untouched and before the modern methods of research had been developed he led the way in the study of the minute structure of the brain and spinal cord and the organs of special sense. In 1861 he was invited to join the staff of the Eye Infirmary and eight years afterwards he was appointed a surgeon of that hospital. In 1871 he received the appointment of Waltonian lecturer on Diseases of the Eye in the University of Glasgow in succession to the late Dr. William Mackenzie, and in both institutions he worked and taught until he retired in 1900. In 1896 the Senate of the University of Glasgow, in recognition of "his eminent attainments, his zeal in the prosecution of science, and his long and valuable services as a lecturer," conferred on him the degree of Doctor of Laws.

Outbreak of Diphtheria in Paisley.

An outbreak of diphtheria which commenced in the western district of Paisley continues to spread notwithstanding the strenuous efforts being made by the health department to cope with the epidemic. The cases now number 113 and of these 100 are in hospital, while 13 are under treatment at home. Since the commencement there have been 140 cases notified, but so far there has been a fair percentage of recoveries. The deaths number five. The school board has decided to close all schools under its control for three weeks and has made a strong recommendation that all Sunday schools should also be closed.

Cases of Glanders in Renfrewshire.

The Board of Agriculture and Fisheries has by licence granted permission to the local authority of the county of Renfrew to destroy, in accordance with Article 17 of the Glanders or Farcy Order of 1904, the carcass of any animal affected with the disease, such carcass to be destroyed by exposure to a high temperature or by chemical agents upon the farm or premises upon which the animal died or was slaughtered. This supplies a long-felt want, as there are no premises in the county approved by the Board for the purpose of destroying such carcasses. Negotiations are at present pending with the local authority of the city of Glasgow for permission to move diseased or suspected animals into licensed premises in the city approved by the Board for the destruction of such animals.

The Election of a Direct Representative.

Dr. Norman Walker announces that he will address meetings in connexion with his candidature for a seat upon the General Medical Council in Aberdeen on Thursday, Nov. 8th, in the Palace Hotel at 5.30 P.M., with Professor W. Stephenson in the chair; and at Dundee, in the Gilfillan Hall, on Friday, Nov. 9th, at 5 o'clock, with Dr. R. Sinclair in the chair. In the following week he has arranged to address meetings in Glasgow and Dumfries.

Oct. 30th.

[1] THE LANCET, May 19th, 1906, p. 1403.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal University of Ireland.

A MEETING of the Senate of the Royal University of Ireland was held on Oct. 25th, when Sir Christopher Nixon, Bart., M.A., LL.D., was unanimously elected Vice-Chancellor

in the room of the late Monsignor Molloy. The following motion was proposed by the Rev. Dr. Delany, seconded by His Grace the Most Reverend Dr. Healy, and carried unanimously:—

That in the judgment of the Senate of the Royal University it would be disastrous to the interests of education in Ireland and gravely injurious to the welfare of the country to concentrate the control of higher education in one University.

The meeting for conferring degrees took place on Oct. 26th and notwithstanding the precautions taken by the Senate and the presence of a large number of police at the gates much disturbance took place, caused by a small number of students in the gallery who, however, made up for the paucity of their numbers by the loudness of their voices. They interrupted Lord Castletown, the new Chancellor, in the delivery of his address and oftentimes rendered almost inaudible the announcement of degrees and honours by Sir James Creed Meredith, the secretary—a most popular officer with the undergraduates. Notwithstanding these interruptions the Chancellor's address was heartily received by a very large and appreciative audience. When he conferred the degree D. Litt. Hon. Causâ on Dr. Douglas Hyde the applause was deafening. The National Anthem was duly played on the organ and the proceedings terminated.

Royal College of Physicians of Ireland.

At the stated annual meeting of the Royal College of Physicians of Ireland, held on Oct. 17th, Dr. Joseph M. Redmond was elected President and Mr. Conolly Norman Vice-President for the ensuing year. Dr. John F. W. Tatham was admitted to the Honorary Fellowship. Dr. Daniel Joseph O'Connor, physician to the Mercy Hospital, Cork, has been elected a Fellow of the College.

Longford County Infirmary.

The extraordinary dispute between the committee of management of the Longford County Infirmary and the medical officer of the institution still continues. At a largely attended meeting of the committee held on Oct. 17th, Bishop Hoare presiding, the question of the improvements to the infirmary and the repairs repeatedly recommended by Mr. Mayne was considered. After a long discussion it was decided that the county surveyor should be asked to draw up specifications for carrying out the suggested improvements to the infirmary buildings and that tenders should be advertised for. The next business considered was the adjourned application of the medical officer for his salary, of which two quarters are now due. After another long discussion the chairman proposed:—

We hereby resolve that the surgeon for the present do not receive his salary and that no member of this board will sign his paper or approve of his being paid.

Mr. Bond protested against what he described as a most dictatorial resolution. It was carried, however, by a majority of one.

The Belfast Milk-supply.

The epidemic of typhoid fever in Belfast has at last aroused the attention of the citizens to the total want of supervision exercised by the city corporation over the sources of the milk-supply of Belfast. An inquiry was recently held in reference to the proposed closing of an old burying-ground at Monkstown, near Belfast. It appears that the lower portion of this graveyard is so marshy that in order to complete an interment in a newly opened grave it has been found necessary to sink the coffin, which was actually afloat. The water and drainage from this ground pass through an open drain into a small river known as the Poundburn which flows through the precincts of the burying-ground and is the only source of water-supply for a portion of Monkstown village and for farmers in the locality. This is a large dairy district and the pasturage is watered by the Poundburn river which is the only source of water-supply for large numbers of cows yielding their milk for the Belfast market. If and when Mr. Bryce's commission of inquiry comes to Belfast it seems that we may expect extraordinary revelations as to the state of the public health of the city and the measure of inspection that the sanitation has received from the authorities. The recent appointment of a superintendent medical officer of health has been made in circumstances which have thoroughly roused many influential citizens.

Oct. 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A New Method for the Fixation of Fractures.

AT the Surgical Congress which was held from Oct. 1st to 6th M. Depage of Brussels described a new method of osteo-synthesis. At his suggestion pins (*boulons*) had been made with flexible metallic directing points, by means of which it was easy to pass the pins through the bony fragments that were to be held together. These pins permitted complete fixation of fractured bones and could be supplemented by small metallic splints placed on each side of a bone. M. Depage gave details of the procedure for the various long bones. He almost always made two incisions, one internal and the other external, so as not to have to remove the periosteum over too large an extent of the bone. The method has been employed with success in a case of fractured patella, in two fractures of the femur, and in two fractures of the leg.

Treatment of Congenital Dislocation of the Hip-joint.

At the same congress M. Calot said that the treatment of congenital dislocation of the hip joint ought to be commenced as soon as the diagnosis was made. The younger the children were the better was the result. In support of this view he showed about 30 children who had been successfully treated for single or double congenital dislocations of the hip, having been operated on at such early ages as from 20 months to three years. All these children walked perfectly well, so that no one could have suspected their previous condition. Radiographs of each patient had been taken and showed that the anatomical conformation of the joint had been improved to an extent commensurate with the recovery of function in the limb.

The Sterilisation of Milk.

The question of the sterilisation of milk, which is of such importance in connexion with infantile mortality, has recently been a subject of discussion in the newspapers. Some time ago it was announced that Professor Behring in Germany had discovered a new method of sterilising milk by means of oxygenated water without the use of heat. A French newspaper thereupon published an article not only describing Professor Behring's discovery but decrying the sterilising of milk by heat, which is the method used in France for the artificial feeding of infants. This article maintained that sterilisation by heat deprived the milk of three-fourths of its nutritive and strengthening properties, the consequence being that infants fed on such milk generally looked ill and had a marked predisposition to rickets, diarrhœa, and other children's diseases. There was naturally a great danger that this article would lead women of the humbler classes to believe that there was no advantage in sterilising milk by heat. Dr. Variot, a French medical man very well known for his work in connexion with the reduction of infantile mortality, has accordingly just published in the same newspaper a reply to these assertions. He mentions in the first place that the investigations made by Professor Behring and his assistant in the children's hospital at Marburg lasted for only three months, a period insufficient for the formation of a trustworthy opinion, for when infantile scurvy attacks children fed on impoverished milk it does not show itself till after the lapse of six or eight months. Moreover, Dr. Variot has during the last 15 years distributed to thousands of infants more than 500,000 litres of milk which had been sterilised on a large scale (*industriellement*) by heating it to 108° C. Many medical men in country districts have employed the same methods and with complete satisfaction. The employment of this milk has reduced the infantile mortality by 12 or 16 per cent. What will happen if mothers, rendered distrustful by the article which has been published against the sterilisation of milk by heat, should resume the giving of unboiled milk to their infants? Two years ago, also at the suggestion of Professor Behring, formalin (*formol*) was added to milk as a steriliser but the medical men who tried this milk on suckling infants were much disappointed with the result and very soon gave it up.

Uncontrollable Vomiting in Suckling Infants.

At a meeting of the Société Médicale des Hôpitaux held on Oct. 12th Dr. Variot showed a suckling infant in whom uncontrollable vomiting had been stopped by discontinuing

the mother's milk and in place of it giving sterilised milk to which sulphate of soda had been added. Perhaps the milk of another woman might have answered equally well, but as the people were poor a wet-nurse could not be employed. The good result above mentioned was obtained with three pennyworth of sterilised milk a day. Dr. Variot thought that it was necessary to distinguish two varieties in the so-called uncontrollable vomiting of suckling infants. One consisted merely in regurgitation due to gastric irritability of unknown cause; it was easily checked by giving the child citrate of sodium before feeding. The other could only be dealt with by changing the source of milk-supply. It would appear that in some cases, which were not so rare as might be supposed, mother's milk had a toxic effect, but examination of its composition gave no clue to the nature of the process.

The Protection of the Public Health.

The Minister of Justice has just addressed to all procurators-general a circular in which he commences by recalling the fact that for some four years a law has been in existence formulating a certain number of regulations through which can be brought about the intervention of civil courts with a view to safeguard public or private interests as to sanitary matters. The Minister goes on to say that although this law has not been in working order for very long it seems to him that it would be interesting to obtain any results which have been procured up to date as to its working. The Minister therefore asks that procurators-general shall give him information as to their respective districts in a conjoint report, which report shall be preceded by a detailed inquiry carried out by delegates. This inquiry is to deal more particularly with infractions of the sanitary law which have been brought to light and which have been followed up by actions at law in which a definite judgment has been given, and also with any intervention of the courts which has taken place with a view to assure the strict application of the regulations of the law. The procurators-general are asked also to add any observations which the working of the law up to the present date has suggested and any facts concerning the protection of the public health or any instances where the working of the law has come into conflict with vested interests or well-established customs. The Minister adds a request that the procurators-general may inform him of any alterations in the law which in their opinion may be possible or desirable.

Renal Calculi and Radiography.

At a meeting of the French Association of Urology held during the month of October M. Raffin showed five renal calculi which had been removed by him after a diagnosis made by radiography. The radiographs were taken by M. Arcelin. The technique was as follows. The patients were first of all freely purged. The abdominal wall was then depressed by means of an air cushion which was pressed down by a girth weighted at either end by sand bags. The electricity was obtained from a 12 plate static machine by Drault. An ordinary tube was used and the sitting lasted for about 25 minutes. The tube carrier was furnished with an iris diaphragm by Drault and in front of the tube a Blum's iris tube was placed to cut off the secondary rays. Nephrotomy was performed in four of the patients and pyelotomy in one. All the patients did well.

Oct. 30th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Hysterical Lethargy.

A CASE of lethargy lasting more than two years and three months is described by Professor Eulenburg in the *Berliner Medicinische Klinik*. The patient was a man about 45 years of age. He belonged to a nervous family and was a moderate drinker. He had always been rather phlegmatic, forgetful, and unable to do much work. During the last four years a marked deterioration of his mental capacity was observed, some of his symptoms being that he became more and more apathetic, was drowsy during meals, and declined to speak to visitors. On June 10th, 1904, he fell from a tramcar and was taken in an unconscious state to an ambulance station. When his medical attendant saw him at his (the patient's) house three hours after the accident he found him conscious but complaining of giddiness, pains in the neck, and nausea. All these symptoms, however, passed off except the pain in the neck. On the fifth day after the accident a marked condition of somnolence set in; he answered questions rather shortly, yawned frequently, was difficult to rouse, and has slept continuously since June 20th, 1904, i.e., ten days after the accident. From September, 1904, to February, 1905, he was an inmate of a sanatorium and afterwards was seen frequently by Professor Eulenburg who always found him in the same state of somnolence, his face being pale and his forehead drawn together in wrinkles. His eyes were habitually closed and when an attempt was made to open them the lids closed again. The pulse was weak and made from 64 to 65 beats per minute; the muscles were relaxed and offered no resistance to passive movements. Neither pricking with a needle nor faradisation caused pain. He never spoke, not even asking for food or drink. When food was put in his mouth he swallowed it very slowly and automatically without letting it "go down the wrong way." Urine was passed only when a urinal was placed in position, and it was remarkable that when the urinal was on one occasion forgotten he passed the next time about four litres of urine. The bowels were opened every second day by purgatives and when they were about to act the patient made involuntary movements in his bed. He was then taken to the water-closet where he sat with his body gradually sinking forward. Professor Eulenburg, after having seen him sitting at the window, said that the appearance of his pale face with closed eyes was ghastly. The patellar reflexes were strong but the superficial reflexes had disappeared. Professor Eulenburg considered that the case must be classified as one of exaggerated hysteria. It was very unlikely that grave organic disease of the brain was present, because of the function of the bladder and the patellar reflexes being preserved. Cases of lethargy in hysterical patients have been described by several authors but the characteristic feature of the present case is the length of time for which the lethargic state has persisted without interruption. The prognosis is not bad and the patient will probably awake some day spontaneously.

Medical Officers to Steamships.

The obvious decrease of medical students during the last five years has, of course, not been without its effect on the pass-lists and the supply of recently qualified medical men is not nearly so large as it was a few years ago. Appointments usually held by the younger medical men, such as assistantships at the smaller hospitals and those in the provinces, are therefore often vacant, and this is also the case with regard to the appointment of medical officers to steamships. Ships' surgeons formerly remained in the service for a long time and a great number of candidates were constantly waiting for such vacancies as might occur, but circumstances have now altered so much that advertisements for ships' surgeons frequently appear in the medical journals. The Leipziger Verband, the most important medical union in Germany, to which allusion was made in THE LANCET of Feb. 21st, 1903, p. 558, has now fixed the conditions under which it will allow its members to accept such appointments. The salary is to be from 175 to 250 marks per month according to the time of service and 300 marks per month for coasting vessels in China. Medical men who have gone through a course at the Institute for Tropical Medicine in Hamburg are entitled to extra pay at the rate of 50 marks per month. If there is an allowance of wine to the medical officer the value of the amount, if any, unused by him must be paid to him in cash at the end of the voyage. The medical officers are allowed to charge fees for the treatment of saloon passengers and the companies have to abstain from advertising free medical attendance on board. The medical officer must rank with a chief officer and if he is obliged to wear uniform he is entitled to an extra allowance for the purchase of it. He must have a comfortable cabin and an extra room for the dispensary. He is to be allowed to go ashore in a port on simply informing the captain and without needing the special permission of the captain but, of course, on his own responsibility. These demands are quite reasonable and the companies will probably agree to them.

Nutrition by Subcutaneous Injection.

A few years ago Professor Leube recommended the subcutaneous administration of oil as an addition to artificial feeding by enemata of milk, eggs, and starchy substances. This method has been favourably regarded by

several authorities, as the oil after a few hours disappeared from the place of the injection and thus had obviously become absorbed. Dr. Winternitz, of the medical clinic at Halle under Professor von Mering, writing to the *Therapie der Gegenwart*, has recently published an article on the same question and has come to the conclusion that of an injection of 500 grammes of oil not more than from two to three grammes of fat are assimilated daily, so that some months would pass before the whole quantity of fat entered the organism. In the course of his experiments he found that the fat previously to absorption became emulsified within the tissues. He therefore prepared a very fine, sterilised, and unirritating emulsion of fat by aid of gelatine and found the absorbed quantity of fat to be three times, and in some instances even five times, greater than in non emulsified fat. This fact was, however, more of theoretical than of practical interest, because of the great volume of the emulsion which necessitated the injection of only one-third of the fat. Moreover, the method was not free from danger as cellulitis might occur, and the same was the case when pancreatic ferment was combined with the fat. The subcutaneous injection of oil was therefore of no value for patients.

Tolerance of Morphine.

Dr. Porzcht of Burendorf, writing in the *Münchener Medicinische Wochenschrift*, reports a case of remarkable tolerance of morphine by an infant, aged eight months. The mother had by mistake given to the child a powder intended for the grandfather. When a medical man arrived after about an hour he found the child cyanotic with superficial respiration and extreme contraction of the pupils. Neither diarrhœa nor vomiting was present. The tube of the stomach-pump could not be introduced and vomiting could not be obtained by irritating the pharynx. The treatment consisted in the administration of atropine—0·0001 gramme of atropine—and in friction of the skin. The next morning the child was well and had a good appetite, but the contraction of the pupils still persisted. It was found that the powder contained 0·02 gramme of morphine.

Precocious Menstruation.

A remarkable case of precocious menstruation is described in the *Aerztliche Sachverständigen Zeitung* (*Journal of Medical Experts*). A girl born in 1901 had shown a normal development without any illness till her third year. At this time the nipples became prominent and the mammæ began to swell, a condition which has gone on increasing up to the present time. At the beginning of her fourth year there was a sanguineous discharge from the genitals and this has recurred regularly every four weeks for five or six days. The external genitals did not show any abnormality and internal exploration was, of course, avoided. There was no development of hair on the mons Veneris.

Oct. 29th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Diphtheritic Ophthalmia.

Dr. A. Dutoit, ophthalmic surgeon in Burgdorf, formerly surgical assistant at the ophthalmological clinique in Zürich, has published a full account of 42 cases of diphtheritic ophthalmia treated during the period 1897 to 1905 at the Zürich Ophthalmic Hospital which is in charge of Professor O. Haab. Of these cases, 22 were boys and 20 were girls. 23 of them were under treatment for a fortnight and the remainder for a month or more. As regards age, 20 were under one year of age, 13 were under two years, and nine were from two to seven years old. The majority of the cases (32) were children inhabiting the working-class suburb of the city of Zürich, an area which has a population of 170,000. The origin of the infection could only be proved in three cases. As regards diagnosis formation of membranes was always noted; the diphtheria bacillus was found in 35 cases (83 per cent.). Injections of anti-diphtheritic serum were given to 25 patients, 19 of whom made a good recovery; the remaining six had perforating ulcers of the cornea and two of them died from pneumonia. Among the other 17 patients who were not treated with serum there were five deaths—three from pneumonia, one from diphtheria faucium, and one from glioma cerebri. The local treatment consisted in the application of antiseptic solutions containing corrosive sublimate (1 in 5000), permanganate of potassium, or boric acid; in the later stages solutions of nitrate of silver were used, having a strength of from 1 to 3 per cent. Strict isolation and proper disinfection were of great importance.

Foreign Students at Swiss Universities.

The steady increase of foreign students has occupied the attention of the authorities at the five Swiss universities for several years. These foreigners are, for the most part, students of medicine and Russian by nationality. At Bern, Zürich, and lately at Lausanne, complaints of overcrowding have been sent in to the authorities. The response has lately come in a series of new regulations for foreigners with a considerable increase of the very moderate fees for entrance examinations, &c. The authorities expressed their regret at having to adopt such defensive methods, but the necessity is obvious when it is considered that during the last summer term there were 1331 foreigners and only 553 Swiss students registered at the five medical faculties. The increase of female students of medicine was especially remarkable as they now amount to 998 and outnumber the men, of whom there are only 886. The figures for the several universities are as follows:—

	Male students.	Female students.	Total.
Basle	141	5	146
Bern	160	338	498
Geneva	184	159	343
Lausanne	140	322	462
Zürich	261	174	435
Total	886	998	1884

Zürich, Oct. 23rd.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Sanitary Hairdressing.

THE medical officer of health of the city of Budapest has submitted to the sanitary committee of the public health department a series of regulations for the formation of a register of sanitary hairdressing establishments; and it is proposed that any failure to comply with the regulations should be followed by the removal of the name of the offender from the register. He recommends, among other things, that regular customers should provide their own toilet requisites; that all shelves and fittings should be made of glass; that the use of powder-puffs should be discarded in favour of powder pulverisers; that a barber or hairdresser should refuse to attend a customer who is apparently suffering from any disease of the skin or hair; and that all razors and combs should be kept for five minutes in a 5 per cent. solution of sodium carbonate. He also recommends that hair-curlers and tongs used in ladies' hairdressing establishments should be boiled for ten minutes.

Psychoses associated with Migraine.

At a recent meeting of the Medical Society of Budapest Dr. Mandel read a paper on Psychoses associated with Migraine. He said that simple hemicrania sometimes gave rise to mental irritation or depression, anger, or slight hallucinations. An attack of migraine of an epileptic type with muscular twitchings or ocular manifestations might be preceded by a visual aura. When the migraine was of the nature of true epilepsy the visual aura assumed a red colour. Psychical symptoms might occur in either. A transitory psychosis sometimes followed or accompanied migraine. This was important from a therapeutical point of view, for it indicated the necessity of using anti-epileptic treatment for migraine. Similarly there existed a close clinical relation between attacks of migraine and hysteria major. Several types of cases had been recorded, of which the following were examples: (1) A combination of visual hallucinations, amnesia, ataxia, or aphasia, with attacks of migraine lasting six hours; (2) mental confusion, with religious excitement; (3) hemicrania, with temporary blindness, paræsthesia, and impairment of speech; and (4) hemicrania after mental shock, with anxious delirium and partial unconsciousness for three days. These psychoses, however, were of rare occurrence.

Lesions caused by the Roentgen Rays.

At the same meeting the electrician of the Surgical Clinic showed several patients who were suffering from serious lesions which had been produced by the Roentgen

rays. In all these cases the original disease on account of which the treatment was undertaken was persistent eczema. He did not think that the use of the chromo-radiometers had proved to be so successful as was expected and he considered that the so-called exact measurement of the intensity of the rays was only a vague relative term. He said that the statistics of 1905 were not sufficiently accurate, nor had the observations been so carefully recorded as to enable a trustworthy opinion to be formed with respect to the injury which might be inflicted by the rays. It was generally admitted that burning was an accident dependent on peculiar idiosyncrasies. It was to be hoped, however, that these warnings would be remembered by dermatologists. In conclusion, he said that in his opinion eczema was not a suitable disease to be treated with the Roentgen rays.

The Food and Drugs Act.

Considerable interest has been aroused by a recent case in which a prosecution under the Food and Drugs Act took place at a country town in Hungary. The nominal defendant was a tradesman in the town but in reality the action was directed against a large Budapest manufacturing firm which supplied the article in question, known and sold as cooking fat. This was admitted to be a manufactured article containing about 20 per cent. of cotton-seed oil. The inspector of food and drugs withdrew the "detrimental to health" clause in the indictment. One of the members of the Budapest firm testified that they had manufactured cooking fats for 13 years and sold them under various names and that last year they had used no less than 3000 tons of cotton-seed oil. After several experts had been heard the bench dismissed the case, holding that the Act had not been contravened.

Oct. 18th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

A New Medical Council and its Work.

A NEW medical council under the name of "Conseil d'Instruction Médicale" and under the presidency of Professor Mazhar Bey was constituted this month. Among its members are several distinguished medical men, including Professor Mahmoud Hakki Pasha and General Dr. Zéros Pasha, professor at the internal clinique of the Imperial School of Medicine. The duties of this "Conseil d'Instruction" will be to watch over the sanitary situation of the Ottoman Empire, to inspect and to direct the management and the operations of the administration of the civil service of medicine, and to attend in general to all the questions relating to the advancement of medical science in the dominions of the Padishah. The council, which will meet three times weekly in the Imperial Medical School, should accomplish good work and render great service to the country.

The Water-supply of Mecca.

The subscriptions that were opened some time ago for the improvement and repair of the water-supply of Mecca exceed at present 2,000,000 piastres (one piastre = 2*d.*). The following details concerning the provision of this city with drinkable water may be of interest. Sultan Suleiman the Magnificent, who reigned from 1520 to 1566, was the first to execute on a large scale works for water-supply. 30 years later Mihr-u-mah Sultana, the pious daughter of Suleiman, began other extensive works, using the sources of Zubedi. She, however, died without having finished her task and her brother, Sultan Selim, brought it to a successful termination. Subsequently an Indian Mussulman, Elmas Agha by name, added to the Zubedi supply that of Ain-i-Zafran. The works have been repaired and improved on different occasions since. The present Sultan, Abdul-Hamid II., has expended the sum of 85,500 Turkish liras (one lira = 18*s.*) to enable the works to yield 5000 okes of water per minute (one oke = about two and three quarters of a pound). He has also constructed numerous fountains and large reservoirs at different places of the city. The construction of fountains and the provision of any city or town or village with drinkable water are considered by the Sultans to be most sacred religious duties of every faithful and wealthy Osmanli. When Mohammed the Conqueror took Constantinople he at once ordered the erection of 200 fountains in the metropolis. Sultan Bayazid constructed 70 and Suleiman the Magnificent as many as 700 fountains. Every more or less well-to-do Mussulman is readily contributing towards the subscriptions for the water-supply of Mecca, which promises henceforward to meet all the requirements of the pilgrimage seasons, when many thousands of worshippers flock to Mecca and Medina from all parts of the world.

Miscellanea.

Not far from Baiburt in Asia Minor a Turk has been discovered who possesses, according to trustworthy information, 45 teeth, all of which are in a perfect condition. This seems to be a hereditary condition, as the mother and sister of the Turk also have the same unusual number of teeth.—It is reported from Smyrna that a Greek nurse there has died under terrible sufferings from the bite of a tarantula. Soon after the bite the tongue of the unfortunate woman swelled enormously and protruded from the mouth. She died in a comatose state.—At the request of the Tobacco Régie, says the *Levant Herald*, the Ottoman Government has sent instructions to the Custom House authorities in regard to the quantity of tobacco which travellers arriving from abroad are allowed to bring in. This allowance extends to 50 drachms of tobacco and to 50 cigarettes.

The Month of Ramazan.

The worshippers of Islam are at present in the full swing of alternate fasting and feasting. During the day, from sunrise to sunset, they do not partake of any food and drink and strictly abstain from smoking. As soon, however, as the thunder of cannons announces, at different parts of the metropolis, that the sun has set and that the twelfth hour of the day, according to Moslem time division, has struck, the feasting begins. Then the faithful Osmanli tries to make up for the restrictions and restraints of the day. As Ramazan is now falling when the days are comparatively short his fasting is less trying than when the moveable month happens to occur in summer. All the quarters peopled by Turks, which are at night at other times of the year perfectly desolate and quiet, take during the nights of Ramazan quite a different aspect. Especially is this the case in Stamboul, the heart of the Mussulman population. All the streets are then crowded with people. Groups of veiled women are seen at every turn. Music resounds in different corners and near the famous Shah-Za-dé Mosque theatres of every description, from the national Kara-Gheuz to a French *café-chantant*, display, in every possible degree, their skill and ability to attract and to amuse the passers-by. All the mosques and houses are brightly illumined and in the latter the members of the family, the servants, slaves, and eunuchs included, enjoy the pleasures of *iftar*, the chief night meal. The rules set down by old Moslem precept as to how to behave religiously and appropriately at meals are interesting, though whether they are devoutly complied with in times of festival is doubtful. Here are some examples: Wash your hands and mouth before eating. When eating never put one leg upon the other, nor put your elbows upon the table as this hinders good digestion. Never be a slave of your repast and never touch any meal if you are not hungry. Be ever content with what you find before you and never give yourself great pains in preparing choice dishes. Be always, if possible, at the table in company with friends, as the Prophet never partook of his meals alone. Always begin and end your meal with thanksgiving to Allah. Always eat with your right hand and swallow, before and after food, a little salt. It shows good upbringing and is pleasing to Allah ever to put into the mouth only small morsels and never to make any observations upon the defective qualities of dishes. Never cut bread with a knife, but, as the Prophet did, break it. Never choose the fruit offered but take any *au hasard*. Never wipe your fingers with bread. Avoid blowing on a hot dish, but wait until it gets cool. Eat dates, apricots, and other similar fruit one by one, remembering in eating them thus the unity of Allah. Avoid at the table drinking much water. Your meal finished, use attentively the toothpick, gather up the crumbs, and wash again your hands and mouth. Lastly, render thanks to Allah. The good sense and decency of most of these rules are obvious.

Oct. 26th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

A New Child Labour Law.

THE condition of children employed in the various industries has attracted but little attention in this country until recently. The great increase in manufactories of various kinds and the dearness of labour have gradually led to the employment of children in larger and larger numbers until the matter has finally attracted public attention and has led to legislation in several States. The law of New York, passed at the last session, is very stringent. Its most important provision is the prohibition of the employment of children under the age of 16 years in any factory in the State before 6 A.M. and after 11 P.M., and a similar prohibition after 7 P.M. in New York city of employment in business places, hotel telegraph offices, transmission of messages, &c. No child under the age of 16 years, or a woman, is allowed to be employed in any mine or quarry in the State. Provision is made for a rigid inspection and for the enforcement of the law.

Negro Medical Association.

Since the Civil War in this country there has been a rapidly increasing number of graduates in medicine among the negro population. At Washington and at Nashville, Tennessee, there have been flourishing medical schools for many years devoted exclusively to the education of coloured students. But negro physicians have rarely been admitted to medical societies and when admitted they have not found their presence at meetings agreeable to the white members. This fact has led to the creation of negro medical societies and to a national organisation, not unlike the American Medical Association. Recently this association, the membership of which numbers over 2000, held its annual meeting at Philadelphia, when upwards of 500 members were in attendance.

Health on the Isthmus of Panama.

Colonel Gorgas, chief sanitary officer of the Panama canal zone, reports that there has been no yellow fever in that district in eight months. Pneumonia has caused the largest number of deaths and malaria is the next disease in point of mortality. It has been alleged that there is too much sanitation for the health of the operatives, but Colonel Gorgas attributes the high death-rate from diseases like pneumonia to the very bad sanitation of their lives. The labourers rarely have a change of clothing and when they return home in the evening their clothing is soaked with perspiration and in this condition they go to bed, sleep soundly, and as the air becomes cold towards morning they are thoroughly chilled. To this condition the sanitary officers attribute the prevalence of pneumonia. Malaria is due to the want of protection from mosquitoes through the indifference of the workmen. The Canal Commission is endeavouring to remedy these faulty habits and prejudices of the employees by more stringent enforcement of measures of sanitation and by correction of the methods of living.

Consanguinity and Defective Children.

The report of the United States Census Bureau on the blind and deaf of this country, by Dr. Alexander Graham Bell, is a document of great interest, as it confirms the conclusions arrived at by Dr. Bell as the result of his studies of the causes of deafness. He had previously demonstrated that nearly three times as many deaf children are born of parents who are cousins compared with those born of parents who are not thus related. This average is confirmed by the statistics which have been collected very carefully for the present census report. With regard to the blind the state of affairs is even more deterrent as illustrated by the census report. Of these defectives who were born of consanguineous marriages—that is, parents related as closely as cousins—proportionately 3·67 times as many were born blind as in the case of the blind who were children of those who were not so related. In the case of both the deaf and the blind the census figures show that 4·5 per cent. of all cases are the offspring of parents who are cousins. With regard to the blind, altogether some 60,000 cases have been analysed, with results that leave no doubt that the conclusions arrived at are amply justified.

The Sanitation of Cuba.

The reoccupation of Cuba by United States authority will have a most salutary effect upon the control and extermination of yellow fever. During the first occupation sanitation of the principal cities was carried to such perfection by the American army officers that this hitherto dreaded pestilence was for the time effectually exterminated. The results of the labours of Reed, Lazear, and Agramonte, and the practical application of Finlay's theory of the mosquito origin of yellow fever effected the most remarkable sanitary improvement of a nation recorded in the annals of public hygiene. This improvement was most distinctly and significantly shown in the city of Havana, where Colonel Gorgas, now chief sanitary officer of the Panama Canal Commission, rigidly applied the rules and regulations required against the infected mosquitoes with complete success. For a considerable period after the evacuation of Cuba by the United States army the rules adopted with so much success by Colonel Gorgas were enforced, and Havana remained free from yellow fever and also from small-pox, formerly an ever-present scourge. Travellers visited the island with perfect freedom and gradually Cuba was becoming a winter resort of invalids and pleasure seekers from the northern latitudes. But during the last year yellow fever has again appeared in Havana and other cities and travel in that direction has been checked. The reoccupation of the island by the United States authorities has been hailed as a great blessing by transportation companies, hotel keepers, and all persons interested in tourist travel, for the belief is universal that the vigorous application of sanitation will restore public confidence in the healthfulness of the island and relieve commerce and travel of that most discouraging of impediments—quarantine.

Oct. 23rd.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Abolition of Quarantine for Mecca Pilgrims.

QUARANTINE at Bombay is to be abolished and pilgrims will be allowed to embark without detention subject to the conditions that the ships are cleaned, the passengers are medically examined, and their baggage is disinfected. It is to hoped, however, that the advisers of Turkey will not allow the supplications of their co religionists to interfere with their high sanitary duties. If quarantine be abolished in Bombay these duties will become more important than ever on Turkish territory.

The Increasing Plague Mortality in India.

For several weeks past the mortality from plague throughout India has been steadily rising. For the week ending Sept. 22nd 6436 cases with 4945 deaths were reported. The present season is that of the annual recrudescence and, as in previous years, the Bombay Presidency leads the way. The weekly figures were:—Bombay Presidency, 2918 deaths; Central Provinces, 657; Central India, 787 (of which Indore returned 685); United Provinces, 148; the Punjab, 95; Burma, 99; Mysore, 131; Madras, 20; Bengal, 69; and Kashmir, 5. The city of Poona has recently passed through one of the most terrible outbreaks that have occurred anywhere in India and Poona has itself had previously perhaps the worst experiences. With a census population of 111,000, it is supposed now to be reduced to 50,000 owing to the exodus of nearly all but the poorest people. During one week the mortality was at the rate of nearly 300 per 1000 and on one day 175 deaths were recorded. The appalling insanitary conditions prevailing constitute the only explanation why this city should be so severely attacked but those who know Poona will hardly seek for any other reason.

The Destruction of Human Life by Wild Animals.

The destruction of human life in India by wild animals comes at least in touch with the vital statistics of the country but in addition claims considerable attention on other grounds. During the past year 2054 human beings were killed by wild animals and 21,797 by snakes. Elephants killed 48, leopards 401, tigers 786, and wolves 153. In the Bombay province and in the Central Provinces the lancets designed for the treatment of snake bite with permanganate of potassium have been freely issued and in several cases the treatment is said to have been successful. In addition to human life the number of cattle destroyed rose to 92,277. On the other side we have a record of wild

animals destroyed—16,915—and the rewards paid amounted to Rs. 1,27,665. The number of snakes destroyed is reported as only 64,117. The curious point of the Government report is that the number of fresh licences issued free of cost for the destruction of wild animals or the protection of crops during the year was 8901 and the total of licences in force of this nature was 37,833, and yet we find the number of wild animals destroyed only 16,915. It is obvious that a very large number of these licences are useless.

Improvements at the Calcutta Hospitals.

Great improvements are being carried out at the Calcutta hospitals. The new quarters for sisters, nurses, and native nurses at the Eden and Medical College hospitals are now completed and will provide every necessary comfort. Electric lights and fans are installed. Altogether 96 European and Eurasian (principally Eurasian) nurses are to be provided for. The building will be formally opened by Lady Minto in November. The new surgical ward at the Medical College Hospital will also be opened in a short time. It is expected to be the best of its kind in India. The operating theatre and its appliances will be of the latest and best description. A new lecture-room is to be erected also. The native wards of the hospital are to be furnished with electric fans, the cost of which will be met from the donation given to the institution by the Maharaja Darbhanga through H.R.H. the Prince of Wales during his visit to Calcutta.

Oct. 6th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Miner's Disease in Bendigo.

SOME time ago the trustees of the Wilson Estate decided to defray the cost of a scientific inquiry into the conditions under which work is carried on in deep mines in Victoria and the causes and nature of "miner's disease." Dr. Walter Summons was appointed to make the investigation and has recently completed a report on the subject. He found that the temperature of the air became progressively higher as the depth increased and the amount of watery vapour also increased. The air contained an excessive amount of dust consisting of fine particles of silica. A number of guinea-pigs were placed in the deep workings for some time and then killed and examined, but none developed tuberculosis. The percentage amount of carbonic acid gas in the air varied from 0·139 to 0·465. Examination of the men while working at great depths showed invariable increase in pulse-rate and temperature. As a rule, no alteration in blood pressure was noted. The men were sallow and many complained of languor and feeling exhausted even when not performing laborious work. Two men examined were tuberculous, their sputum teeming with bacilli. Dr. Summons considers the dust to be the main cause of miner's disease of a non-tuberculous form, causing fibrosis. The dust could be much diminished by the use of water sprays. He claims that if the section of the Mining Act relating to the use of sprays were rigidly enforced the dust nuisance would cease. He considers that the mines are insufficiently ventilated, not from want of knowledge but because of the expense of proper methods. He says that the Government should insist that if a company would not provide sufficient ventilation it should not be permitted to carry on operations. He recommends natural ventilation by winzes, cross-cuts, and drives, supplemented by mechanical contrivances, especially the air-jet machine. A higher standard of ventilation is required—namely, one giving not more than 0·15 per cent. of carbonic acid gas. In portions of a mine beyond the circuit of natural ventilation mechanical appliances should be used and the "three compartment" or "box" method of "rising" is recommended. Tuberculous miners should be prohibited from working underground. The whole report is very comprehensive and has been most favourably received, numerous meetings and conferences having been held to discuss it. The working miners, however, took exception to the recommendation that tuberculous miners should be prohibited from working underground unless the Government undertook to provide for them and their families. The Minister of Mines has promised to have the report printed and circulated and to take such action as may be deemed advisable.

Insanity in New South Wales and Victoria.

The report of the Inspector-General of the Insane for New South Wales for the year 1905 has been presented to Parliament. The report states that on Dec. 31st, 1905, there were 5277 persons under official cognisance as against 5097 at the end of 1904, an increase of 180. The increase for 1905, although greater than in 1904, is considerably less than in previous years. The proportion of the insane to the general population is 1 to 283. Figures given to show the increases since 1886 prove that although the increase varies within very wide limits from year to year the average is steadily increasing. The number of persons admitted during the year was 1009, of whom 826 were admitted for the first time, and 183 had been in the same hospital on some previous occasion. Natives of New South Wales formed 50 per cent.; other Australian States, 10 per cent.; England, 20 per cent.; Ireland, 8 per cent.; Scotland, 5 per cent.; and other countries, 7 per cent. of the whole admissions. The number of patients discharged recovered was 430, equal to a rate of 42·61 per cent. on the admissions and re-admissions. The deaths numbered 342 (222 men and 120 women). Calculated on the average number resident this gives a percentage of 6·80, which is a reduction on the rate of the previous year. No less than 75 deaths were due to general paralysis. Pulmonary consumption is given as the cause of 36 deaths. The consumptive patients are as far as possible separated from others and treated in the open air. The accommodation in the hospitals is far below that required for the number of insane under care. The amount expended on the maintenance of patients during 1905 was £137,971, a reduction of £2003 on the previous year.—The Premier of Victoria has been supplied by the Inspector-General of the Insane with particulars of the proposed expenditure on lunatic asylums for the current financial year, totalling £80,000, and most of the items have been agreed to by the Cabinet. It has been decided to call for tenders for the erection of an acute mental hospital, estimated to cost about £30,000 and to provide for 125 patients. The erection of new wards and kitchens at Sunbury Asylum and of receiving wards at the Ballarat and Bendigo Hospitals was approved.

Hospital Affairs.

The President of the New South Wales Board of Health has forwarded to the Chief Secretary a report on the buildings at the Coast Hospital, Sydney, used for infectious diseases. He states that the buildings are unfitted by their construction for the purpose and also by their arrangement. They consist of wood and iron and were built more than 20 years ago for the reception of healthy persons who had been in contact with cases of small-pox. The President urges that a new suitable building should be erected in a more central situation. The Coast Hospital is so far from the city that the journey there and back takes two hours.—The managers of the Alfred Hospital, Melbourne, have decided to erect a new operating theatre to cost £1671.

Medical Man's Claim against the Queensland Government.

Mr. J. Stockwell, formerly medical superintendent of the Dunwich Benevolent Asylum, brought an action in the Supreme Court, Brisbane, to recover from the Government £125 arrears of salary and £10,000 damages for wrongful enforced resignation. The defence was that Mr. Stockwell was charged with maladministration and the Governor in Council being satisfied that the charge was established ordered the enforced resignation. The jury gave a verdict for Mr. Stockwell and judgment was given for £2212 damages.

Obituary.

On August 17th Dr. James Edward Neild passed away, after being for over 50 years a very prominent figure in Melbourne both as a medical practitioner and as a journalist. He was born in 1824 at Doncaster, England, and was apprenticed to his uncle, a leading medical practitioner in Sheffield. After his apprenticeship he became a student at University College, London, and took the diploma of L.S.A. While studying in London he began that close association with theatrical life which he kept up to his death. After qualifying he was appointed medical officer to the Rochdale Infirmary, but his desire to introduce the use of anæsthetics and other reforms led to his resignation, and his supporters among the governors of the institution indicated their appreciation by making him a presentation of plate. In 1853 Dr. Neild came to Australia and finally settled in Melbourne. In

1864 he took the degree of M.D. at the University of Melbourne. He early became associated with the press, contributing literary and theatrical notices to the *Argus* and the *Australasian*, and for many years he was the dramatic critic of the latter newspaper. He took part in establishing the *Melbourne Punch*. He claimed to have discovered Madame Melba's voice and urged her to devote herself to vocal music. Dr. Neild was an original member of the staff of the University of Melbourne and held the position of lecturer on forensic medicine until quite recently; he was one of the best medico-legal experts in Melbourne, having made over 8000 post-mortem examinations for the coroner, and his skilled evidence on many occasions led to justice being done, both in causing convictions for murder and saving innocent people from the gallows. He acted for a time as city coroner and while doing so presided over the inquiry into the murders by the notorious Deeming. He was connected with the foundation in Melbourne of the Medical Society of Victoria, of which he was for many years secretary and also president and editor of its organ, the *Australian Medical Journal*; the Victorian Branch of the British Medical Association, of which he was president; the St. John Ambulance Association, the Shakespeare Society, and others. Dr. Neild was personally a delightful man, courteous and obliging; a typical "good old English gentleman," of wide reading and culture, but also a keen fighter for what he thought to be the right.

Sept. 17th.

Obituary.

WILLIAM SEDGWICK, M.R.C.S. Eng., L.S.A.

Mr. William Sedgwick, formerly of 101, Gloucester-place, Portman-square, London, W., died on Oct. 20th at Acton, where he had been of late residing. He was born at Highbury place, Islington, on August 6th, 1822, being very nearly the youngest of the 14 children of Thomas Sedgwick, formerly of Dent in Yorkshire. Some two or three of his early years were spent at Imber in Wiltshire, of which place, together with two adjoining manors, one of his maternal uncles was the squire. Between the age of 16 and 17 years he became a pupil of the late Dr. Challice of Bruton-street, Berkeley-square, and in due course was entered as a perpetual pupil in the medical department of University College, London. In University College Hospital he held the appointment of dresser to Mr. Thomas Morton and Mr. Robert Liston. He took the diploma of M.R.C.S. Eng. in 1845 and then made three voyages to India and China as surgeon in charge of passengers and troops. He subsequently studied for a winter session at the Paris medical schools and on his return to London took the diploma of L.S.A. in 1848. Having soon afterwards settled in general practice in Marylebone, he showed much aptitude for the literary as well as the practical side of professional work. The earliest of his many contributions to THE LANCET seems to have been an account of a case of rupture of the uterus which appeared in the issue of Jan. 15th, 1853. At an early period he began his researches into the laws governing heredity, of which the chief results were published in the late *British and Foreign Medico-Chirurgical Review* for 1861, 1863, 1866, and 1867, as well as in later papers on the same subject in some of the weekly medical journals. A paper by him on the Extended Influence of Atavism on Hereditary Disease was also communicated to a meeting of the British Medical Association at Worcester and was published in the *British Medical Journal* of Nov. 18th, 1882. These papers have been favourably noticed by Darwin and Herbert Spencer as well as by some American writers on the subject, but it is chiefly by his work in connexion with cholera that he will be remembered. His book on "The Nature of Cholera as a Guide to Treatment," published in 1856 and again in 1866, was favourably reviewed at the time of its appearance. A more complete exposition of his views was, however, given in papers on Some Physiological Errors Connected with Cholera, published in THE LANCET of Oct. 7th and Nov. 11th, 1871, and in a series of three papers on cholera which appeared in the Transactions of the Royal Medical and Chirurgical Society for 1868, 1871, and 1886. The first of these three papers dealt with the suppression of urine in cholera, and in the third, which was entitled, "The Chemical Pathology of Respiration in Cholera," he urged that there was no scientific basis for the theory that collapse in cholera was dependent on defective oxygenation of the blood. It would appear that Mr. Sedgwick even up to the close of his medical career was disposed to dwell on the importance of chemistry in the investigation of disease, and this application of chemistry formed the subject of his presidential address delivered at the annual meeting of the Harveian Society in 1889. Up to the end of 1896 he was the author of at least 40 separate contributions to various periodicals and to the transactions of medical societies. As age advanced he had to withdraw from the active pursuit of his profession, but up to the last he retained a warm interest in the progress of medical science. Mr. Sedgwick married a daughter of Dr. Challice, mentioned above, and she survives him with two sons and one daughter.

RICHARD ORFORD LAMPREY, L.R.C.P., L.R.C.S. Edin.

Mr. R. Orford Lamprey of West Side, Wandsworth-common, S.W., who died on Oct. 13th, might justly claim to be of ancient lineage, as he was a descendant of one of the North Devon families who "emigrated" to Ireland in the thirteenth century. He was a son of the Rev. George Lamprey, rector of Ballintemple, county Wicklow. He took the diplomas of L.R.C.P., L.R.C.S. Edin. in 1878, and was for 25 years a practitioner at Wandsworth, though during the last year or two failing health had greatly interfered with his activity. At one time he took an interest in civic affairs and among the older inhabitants of Wandsworth he was greatly respected. Mr. Lamprey was a Fellow of the British Gynæcological Society. The interment took place at Corsham in Wiltshire on Oct. 16th.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. F. L. Hesse, extraordinary professor of odontology in the University of Leipsic.—Dr. Dauvé, formerly inspecting medical officer in the French army.—Dr. A. P. Fokker, professor of hygiene in the University of Groningen.—Dr. R. Galvao, professor of bacteriology in the University of Rio de Janeiro.—Dr. Emilio Alvarez, formerly professor of surgery in San Salvador.—Dr. Hippolyte Martin-Roux of the Paris Hospitals.—Dr. von Holst, formerly professor of midwifery in the University of Iurieff (Dorpat).—Dr. Pierre Merklen, physician to the Laënnec Hospital, Paris.—Dr. Flocquet, chief medical officer of the Palais de Justice, Paris.—Dr. Giuseppe Pugliatti, formerly professor of experimental physiology in the Messina Medical School.

Medical News.

UNIVERSITY OF OXFORD.—The Romanes lecture will be delivered by Mr. William Paton Ker, M.A., Fellow of All Souls' College, professor of English literature, University College, London, in the Sheldonian Theatre, on Saturday, Nov. 24th, at 4 P.M. The subject will be "Sturla the Historian." Mr. Ker has been appointed in the place of the Right Hon. Lord Curzon of Kedleston, M.A., Hon. D.C.L., who felt himself reluctantly compelled to resign the appointment.—In a Congregation held on Oct 20th the following medical and scientific degrees were conferred:—

D.M.—W. L. M. Day, Exeter College.
B.M., B.Ch.—H. S. Souttar, Queen's College.
B.Sc.—J. A. Brown, New College.

UNIVERSITY OF CAMBRIDGE.—The number of students matriculated as freshmen during the current year is 1072. The corresponding figure for last year was 1039.—At the Congregation on Oct. 25th the following degrees were conferred:—

M.D.: R. E. Sedgwick, Gonville and Caius.
M.C.: A. G. Wilson, Gonville and Caius.

—For the biennial election of members of the council of the Senate Dr. Donald MacAlister has been nominated.

TRINITY COLLEGE, DUBLIN.—At examinations held in the Michaelmas term the following candidates passed in the subjects indicated:—

INTERMEDIATE MEDICAL EXAMINATION.

Part I.—Ralph T. Brooks, James P. S. Dunn, George E. Cralg, Richard

D. FitzGerald, William H. Hart, James E. M'Causland, Wellesley R. Allen, and James Alston.

Part II.—David G. Magill (passed on high marks), William A. R. Spong, James P. S. Dunn, Richard D. FitzGerald, Howard S. Millar, Joseph E. N. Ryan, and James E. M'Causland.

PRELIMINARY SCIENTIFIC EXAMINATION.

Physics and Chemistry—Dorothea M. Franks, Francis J. A. Keane, Samuel R. Richardson, Charles D. Hanan, Maurice S. Moore, Townley G. Hardman, Patrick F. Nunan, John W. Flood, Victor W. T. M'Gusty, John G. Dods, Hans Fleming, Charles J. Pentland, Frank Crosbie, Edmund F. Lawson (Sch.), and Edward Garland.

Botany and Zoology.—Marv G. Caskey, Maurice S. Moore, Townley G. Hardman, William O. Halpin, John B. Burgess, Frederick R. Dougan, Ronald G. M'Entire, Leslie F. Macan, Hugh E. Williams, Francis Casement, Humphrey L. Blackley, George F. C. Healy, Hubert G. Holdbrook, Thomas F. Breen, Samuel A. Lane, Samuel A. Dudley, and Reginald T. Vaughan.

FINAL MEDICAL EXAMINATION.

Part I.—Julian B. Jones, James G. M. Moloney, Thomas Ryan, James R. Yourell, Frank Seymour, Henry P. Hart, Ernest Jameson, Thomas P. S. Eves, James D. K. Roche, William Knapp, Joseph P. R. Poch, Thomas P. Dowley, Gordon A. Jackson, and Bethel A. H. Solomons.

FOREIGN UNIVERSITY INTELLIGENCE.—*Breslau:* The title of Professor has been granted to Dr. Anschutz and Dr. Ludloff, *privat-docenten* of Surgery.—*Freiburg:* Dr. W. Hildebrandt has been recognised as *privat-docent* of Medicine.—*Gratz:* Dr. Josef Langer has been appointed Extraordinary Professor of Children's Diseases in succession to Dr. Pfaundler who goes to Munich.—*Königsberg:* Dr. Ernst Meyer, Extraordinary Professor of Mental Diseases, has been promoted to be Ordinary Professor.—*Marburg:* Dr. Rudolf Beneke of Königsberg has been appointed Professor of Pathological Anatomy in succession to Dr. Aschoff.—*Naples:* Dr. Giovanni Pascale has been appointed Extraordinary Professor of Surgery.—*Prague (German University):* Dr. Engen Steinach, Extraordinary Professor of Physiology, has been granted the status of an Ordinary Professor. Dr. Karl Springer has been recognised as *privat-docent* of Surgery and Dr. Ernst Strüssler as *privat-docent* of Mental Diseases.—*Rome:* Dr. Ernesto Pestalozzi of Florence has been appointed Professor of Midwifery and Gynæcology in succession to the late Dr. Pasquali.—*Rostock:* Dr. Hans Winterstein has been recognised as *privat-docent* of Physiology.—*Vienna:* Dr. Burgerstein has been appointed *privat-docent* of School Hygiene. Dr. A. Fröhlich has been recognised as *privat docent* of Experimental Pathology.—*Würzburg:* Dr. Max Bolst of Göttingen has been appointed Professor of Pathological Anatomy in succession to Dr. von Rindfleisch, resigned.

A SOUTH AMERICAN HOSPITAL.—Mr. Alfred Cartwright, H.M. Consul in Ecuador, in his annual report, just received by the Foreign Office, alludes in terms of high praise to the new general hospital of Guayaquil, which, he says, stands in the very first rank amongst all the hospitals of South America. Special attention has been devoted to provide plentiful accommodation, abundant light, good ventilation, and efficient sewerage—requisites most necessary in an establishment of this nature, especially in a country where malarial fevers and tuberculosis are so rife. The hospital is situated on the slope of the hills to the north of the city, at an elevation of 26 feet above high water mark, and is connected with the main town by tramway and telephone. It occupies an area of over 15 acres and has a frontage of nearly 650 feet facing and overlooking the city. It consists of a residence for the sisters of mercy, chaplain, and others, at the front; behind are six two-storey medical wards, connected by covered corridors, but isolated one from another by gardens 40 feet wide. Each building is divided into suitable wards, with accommodation for 70 medical patients. At a level of 16 feet above the medical wards, with intermediate gardens, there are two surgical wards, with all the requisites for 80 patients, large operating rooms, a central chapel, removed from the main buildings, and a large and modern cooking department. Adjacent are a steam laundry, disinfecting rooms, linen stores, stabling, mortuary, &c. The normal capacity of the hospital is sufficient for 500 patients. Each ward has been provided with balconies and benches for those who are convalescent, with sunny exposures, baths, and closets, as well as lavatories and other conveniences. The floor space allowed to each bed is 108 square feet and the cubical capacity is 1765 cubic feet in the medical and 2470 in the surgical wards. Perfect surface drainage has been formed, as well as an elaborate system of underground sewerage. An ample water-supply has been assured through steam pumps for elevating the city supply to a large reservoir built into the hills behind the wards. The exposure of the hospital being to the south it enjoys a plentiful amount of sunshine. The cost of this hospital has been £32,500. There is a second hospital called the Central, which was a gift to the city, at a cost of £6500, by a British merchant, Mr. Alexander Mann, a native of Nairn in Scotland. On an average in the two hospitals 7000 indoor patients are attended annually. The average yearly expenditure on both establishments is about £8000, provided as to 80 per cent. by the municipality and as to 20 per cent. by the Government.

PECKHAM NURSING ASSOCIATION.—The sixth annual meeting of this association was held last week at the house of the president, Mr. C. Goddard Clarke, M.P. There was a large attendance. The report, which was read and adopted, showed that 14,386 visits had been made to 808 patients since the association was inaugurated. Mrs. Charles Ward, the foundress (251, Peckham Rye, S.E.) explained that the association nurses render aid to the afflicted poor in their own homes: they also attend cases of sickness and operation among the middle classes for a moderate fee.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—The annual dinner of this society took place on Oct. 26th. 80 covers being laid. The President, Dr. W. C. Chaffey, was in the chair. After the toasts of "The King and Royal Family" had been honoured the President despatched a telegram expressing to Sir William Broadbent, who was to have delivered the annual address and to have been the principal guest of the evening, the regret of the members of the society at his recent serious illness and their hopes for his speedy convalescence. Mr. Registrar Jennings then proposed "The Society" in a witty speech, which was responded to by Mr. C. J. Oldham, the treasurer, and Dr. A. Newsholme, vice-president. Dr. R. J. Ryle proposed "Our Guests," and in reply there spoke the Mayor of Brighton (Mr. Alderman Colbourne), Sir Robert Farquhar, and the Rev. Canon Bond. Dr. W. A. Hollis proposed the health of the President and Council, which was received with acclamation. The President replied, and for the Council Dr. J. F. Gordon Dill. Dr. E. Cresswell Baber proposed "The Secretaries" and Dr. E. Hobhouse and Dr. Walter Broadbent replied.

MEDICAL MATTERS IN THE FEDERATED MALAY STATES.—Sir William Taylor, the British Resident-General, in his report for 1905, under the head of "Medical Administration," states that during the year Mr. D. K. McDowell, C.M.G., principal civil medical officer of the Straits Settlements, was appointed inspector-general of the medical departments in the Federated Malay States, with a view to bringing the administration of medical matters into harmony with the system in force in the colony. After a tour of inspection through the Negri Sembilan he reported very favourably on the hospitals in that State. In Perak difficulty has been found in obtaining sufficient qualified apothecaries and dressers. The establishment of the medical school at Singapore to which lads are sent from the Federated Malay States to be trained will, it is hoped, meet this difficulty. The hospitals have been maintined in the usual high state of efficiency. The number of in-patients for the year amounted to 55,467 (an increase of about 9000 over 1904) and of out-patients to 120,304. Malaria as usual caused the largest number of cases and then beri-beri and dysentery in this order. A feature in Perak has been a decrease of beri-beri, which is also, according to Dr. Braddon, becoming less virulent in type. The reason for this is still matter for debate. A diminution in venereal disease is reported in the Western States. In Pahang, on the other hand, there has been a marked increase in the number of cases, both of beri-beri and of venereal disease. The death-rates for dysentery and pulmonary tuberculosis, particularly the latter, continue to be very high. Dr. C. W. Daniels continued to serve as director of the Institute of Medical Research until August 23rd, when he returned to England. He was mainly engaged on the investigation of beri-beri and has recently published a valuable contribution to our knowledge on the subject. Dr. G. F. Leicester made investigations in connexion with an outbreak of surra in Perak. He also dealt with various pathological problems, and in his book on mosquitoes has made several alterations which were rendered necessary by the recent changes in the classification of the

culicidæ (mosquitoes). Dr. R. L. Thornley assumed duty as bacteriologist in September, 1905, and from that time has dealt with the various inquiries pertaining to his office.

H.R.H. Princess Louise (Duchess of Argyll) has consented to open the new wing of the Central London Throat and Ear Hospital, Gray's Inn-road, on Monday after noon, Nov. 19th, when purses will be presented to Her Royal Highness in aid of the building fund, of which £6000 have been received towards the £15,000 required.

ISOLATION HOSPITALS IN SOMERSETSHIRE.—After holding the inquiries necessary under the Isolation Hospitals Act, 1893, the Somerset county council has decided to make an Order forming Shepton Mallet urban and rural districts with a combined population of 15,000 persons into a hospital district for the purpose of providing an infectious diseases hospital. It has also been decided to build a similar hospital in the Wincanton rural district where there is a population of over 16,000.

MEDICAL SERVICE DISORGANISED IN MANY RUSSIAN DISTRICTS.—A district crisis is reported in the *Tovaritschtch* from Tver where the medical men and their assistants have not been paid their fees for several months and the supply of medicines has been reduced. Again, in the Poltava circuit the service only gets half-pay, and there is a district in Voronezh where the medical staff is not receiving its remuneration, whilst another community is closing its schools and medical stations. In the Gryasovetsk circuit of the Vologod government the district infirmary is already obliged to do without medicines; credit is exhausted and the Moscow firms will not deliver any more pharmaceutical goods

PRESENTATIONS TO MEDICAL PRACTITIONERS.—On Oct. 11th Mr. Frederick Carter, M.D. Durh., L.R.C.P. Lond., M.R.C.S. Eng., who is retiring after 44 years' practice at Billericay, Essex, was presented by his friends and patients with a cheque and an illuminated album containing a list of the names of the subscribers. The album consists of six leaves of vellum, whereon is engrossed and illuminated an address, the ornamentation being in the style of manuscripts of the second half of the fourteenth century. On the first or title page two views—one of the High-street, the other of Dr. Carter's residence—are sketched in colours.—Mr. T. C. Hughes, who for 15 years has been assistant medical officer at the North-Western Hospital, has been lately transferred as the senior assistant medical officer to the Park Hospital, Hither Green. As a mark of their esteem and regret at his departure the nursing and domestic staff of the North-Western Hospital have presented Mr. Hughes with a combination liqueur and smoking cabinet.

THE ASSOCIATION OF PUBLIC VACCINATORS.—The annual meeting of this association was held in London on Friday, Oct. 26th. In a discussion on Vaccination a paper by Dr. Francis T. Bond was read (in his absence) in which he advocated the postponement of primary vaccination to a later age than that at which it is now required. This suggestion received no support from subsequent speakers, such a modification being regarded as impossible in practice. A large gathering of members dined at the Hotel Cecil in the evening, Mr. E. Climson Greenwood, President of the association, being in the chair. In proposing the toast of "Success to the Association" the chairman deplored the fact that no fixed tenure of their offices had as yet been granted to public vaccinators. Though this had not been attained the body was increasingly successful and made its influence felt. In commenting on the various rumours afloat as to impending changes in the Consolidated Orders by the Local Government Board, the speaker uttered grave warning against changes which would weaken the administration of the Act and lower the standard of vaccination; rather than tamper with the Acts he would prefer to see them repealed and a great object-lesson in their value afforded. In responding to the toast of "The Visitors" Surgeon-General G. J. H. Evatt urged the association not to be afraid of the accusation of trade unionism, as all other professions had their trade unions under various names, and impressed on the members the necessity of educating their own public better. Great power lay in their hands in this direction which if properly employed would render "anti-vaccination" a very feeble force. Dr. A. E. Cope and the secretary both gave sketches of the organisation and work of the society which has its local representatives and in most counties and centres has local councils, the central council is thus able to be in constant touch with public vaccinators all over England and Wales and to exercise local influence of considerable value.

DEATH OF A CENTENARIAN.—Mrs. Ann Stephens of Burnthouse, Cornwall, died on Oct. 19th, in her 104th year. The deceased was born at St. Neots, Cornwall.

THE READ DISPENSARY FOR WOMEN AND CHILDREN, CLIFTON.—On Oct. 22nd the Lady Mayoress of Bristol formally opened the new buildings of the Read Dispensary in the presence of a large gathering. The cost of the undertaking has been £2700 and of this amount £2340 have been already subscribed.

THE PURITY OF OUR FOOD-SUPPLY.—A well-attended public meeting convened by the National Health Society was held at University College, London, on Oct. 29th, to consider the subject of purity in our meat- and milk-supply. Sir Frederick Treves, in his opening remarks from the chair, deplored the indifference of the public to the question. The food-supply of this country could be said, in general terms, to be good, but there was much uncertainty as to whether it was untainted and much certainty that it was capable of communicating disease. After referring to the diminishing birth-rate of the country he said that the appalling infant mortality was largely due to unwholesome and improper food and was capable of being reduced to a minimum if infants could be supplied with pure milk. Sir Frederick Treves declared that no advance had been made in the treatment of meat-supply on the practices of neolithic man. In the cooking of meat all germs were destroyed but it did not follow that meat should be thrown on the kitchen floor and otherwise badly treated before it was cooked. The reckless disregard as to the purity and cleanliness of our food-supply was a national disgrace and we were paying dearly for it. In praising the work of medical officers of health he observed that the inspection of food should be carried out at the source instead of at the finish, and the legal powers of inspectors should be much increased. Here help must come from public opinion, but the public was apathetic; it had passed over with indifference the last report of the medical officer of health of Stepney concerning the adulteration of the food supplied in that borough. Sir James Crichton-Browne thought that the feelings aroused by the Chicago scandals should be turned to advantage. Canned meats were not as nutritious or digestible as fresh meats and were peculiarly liable to sophistication. It was highly desirable that all imported canned meats should have a warranty from the country of their origin and be subject to inspection at the port of arrival. Home-made canned meats should also be vigorously inspected. He denounced private slaughter-houses and our legislation with regard to food adulteration as obsolete. The following motion was unanimously carried:—

> The existing powers and machinery for protecting the public from the dangers of unsound and infected food are inadequate and further measures are demanded, more particularly in regard to meat, milk, preserved foods, and shell-fish.

DONATIONS AND BEQUESTS.—Mr. John Cameron, M.D. Glasg., F.R.C.P. Lond., of Liverpool, has by will left £1000 to the Royal Southern Hospital, Liverpool.—Mr. Henry S. Wellcome, who established the Wellcome research laboratories at the Gordon Memorial College, Khartoum, three years ago, has sent a donation of 50 guineas towards the endowment fund of the London School of Tropical Medicine.—By the will of Mrs. Cardwell of Harrogate the Dewsbury Infirmary and the Dewsbury Nursing Association each receive £5000, the Harrogate Infirmary £3000, Yorks House for Chronic and Incurable Diseases, Harrogate, £3000, and Leeds General Infirmary £2000.—The following charitable bequests have been made under the will of Miss C. Kidston: £1000 to the Glasgow Western Infirmary, £1000 to the Glasgow Victoria Infirmary, £1000 to the Helensburgh Infirmary for Non-Infectious Diseases, £300 to the Glasgow Medical Mission, and £200 to the Larbert School for Imbecile Children.—By the will of the late Mr. A. J. Woodhouse, who practised as a dentist in Hanover-square for nearly half a century and was associated with Lord Shaftesbury in organising the Ragged School at Westminster, the Royal Dental Hospital will receive £1000 for the endowment of a scholarship to be called the "Alfred James Woodhouse" scholarship. To the benevolent

fund of the British Dental Association he left £1000 and £1000 to the Royal Dental Hospital, in addition to the legacy.—By the will of Mr. Arthur Briscoe of Wolverhampton £2000 are bequeathed for general purposes to the Wolverhampton Eye Infirmary; £2000 for general purposes to the Wolverhampton and Staffordshire General Hospital; £2000 to the endowment fund of the Wolverhampton and District Hospital for Women; £2000 to the Free Cancer Hospital, Brompton; £1500 to the Midland Counties Home for Incurables; and £1000 to the National Society for the Prevention of Cruelty to Children.—The late Miss E. Severn of Penybont Hall, Radnorshire, has bequeathed £1500 to the Llandrindod Cottage Hospital; £200 to the Shrewsbury Eye Hospital; and £100 to the Hereford Eye and Ear Hospital.

PROPOSED SMALL-POX HOSPITAL AT NEWPORT.—An adjourned meeting was held at Newport (Mon.) on Oct. 19th between representatives of the Newport corporation and of urban and rural sanitary authorities in the Newport union to consider the advisability of having a joint small-pox hospital for the district. A scheme for a building was proposed and this will be submitted to the various authorities concerned.

LUNACY IN SOMERSETSHIRE.—At the end of the last quarter there were in the two lunatic asylums in Somerretshire 1511 patients, compared with 1455 at the corresponding period of last year. A weekly rate per patient of 8s. 9d. is being charged to the various unions in the county.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, OCT. 25TH.

Seizures of Meat at Smithfield.

Mr. H. H. MARKS asked the President of the Local Government Board whether he was aware that between July 19th and Sept. 13th, 1906, 418 tons of meat were seized and condemned at Smithfield Market, 395 tons of which were described as putrid; what proportion of this meat came from the United States and the Argentine Republic respectively; what system of inspection was in operation at Smithfield Market; how many officials were engaged upon the work; and whether the inspections were made periodically or merely on the occasions of surprise visits.—Mr. BURNS answered: I am aware of the facts stated in the first part of the question. Of the 418 tons of meat referred to about 24 tons came from the United States and about 232 tons from the Argentine Republic. The inspecting staff at Smithfield Market consists of five inspectors under the direction of a chief inspector, and help is occasionally given by men not on the permanent staff. The market is divided into sections for the purposes of inspection, and the inspector for the time being in charge of a given section makes systematic tours through the salesmen's stalls. For further information relating to the system of inspection I would refer the honourable Member to the report made to the Local Government Board by Dr. G. S. Buchanan.

Vaccination Exemptions.

Mr. RENDALL asked the Secretary of State for the Home Department whether he had asked for, and obtained, a report of the refusal by the Thornbury bench of magistrates to grant a certificate for exemption from vaccination to Mr. Alfred Williams on July 18th last; and whether he would furnish a copy of such report; and what further action he proposed to take.—Mr. GLADSTONE answered: I communicated with the justices in August last and was informed that a certificate of exemption was refused because the justices were not satisfied that the applicant conscientiously believed that vaccination would be prejudicial to the health of his child. In these circumstances I regret that I have no power to take any further action. It would be contrary to practice to give a copy of a letter from the magistrates to the Secretary of State.

White Phosphorus.

Mr. SHACKLETON asked the Secretary of State for the Home Department whether he could state on what grounds the British delegate to the Convention of Berne declined to sign the treaty prohibiting the use of white phosphorus in the manufacture of matches; whether this treaty had been signed by the representatives of France, Germany, Italy, Switzerland, Denmark, Luxemburg, and the Netherlands; and, if so, whether, in view of the risks involved in the handling of yellow phosphorus, His Majesty's Government would follow the example of these seven countries and adhere to the treaty.—Mr. GLADSTONE replied: The convention prohibiting the use of white phosphorus in the manufacture of matches was signed by the representatives of the countries mentioned in the question. The grounds which led His Majesty's Government to instruct the delegates to abstain from signing the convention do not admit of being stated within the compass of an answer but they will be fully explained in the papers which I shall shortly lay upon the table of the House.

Traction Engines and Sleep.

Mr. MARKHAM asked the Secretary of State for the Home Department, whether, seeing that numbers of traction engines pass through the streets of London at night shaking the houses and disturbing the sleep of the people, he would say why the police do not prosecute the owners of such engines seeing that Section 13 of the Locomotive Act of 1861 enacts that no locomotive shall be used upon a highway as to cause a public nuisance.—Mr. GLADSTONE said: It is not the practice of the police to take proceedings in the case of a nuisance of this kind. The matter is usually left to the persons aggrieved or to their representatives, such as the borough council, which has power to take action under the section referred to.

Royal Commission on Vivisection.

Mr. O'GRADY asked the Secretary of State for the Home Department whether the Royal Commission on Vivisection was to be enlarged by the addition of one or more medical men who were known anti-vivisectionists; whether he had been approached by representatives of the anti-vivisection movement with a view to so enlarging the Commission; and whether it was the intention that the proceedings of the Commission should be open to the public and the press.—Mr. GLADSTONE replied: I have received a number of representations as to the enlargement of this Royal Commission by the addition of anti-vivisectionists who are medical men. The Commission, in my opinion, is fairly constituted as regards all parties interested. It is for the Commission to decide whether its proceedings should be made public and it has informed the press this morning that it has decided to sit in private and to supply copies of the evidence to certain representative bodies interested in the inquiry.—Further questioned, Mr. GLADSTONE said that out of the ten commissioners four, including two distinguished medical men, were actually suggested to him by the Anti-Vivisection Society.—Mr. LUPTON: Is it not the fact that there are expert vivisectionists on the Commission and no expert anti-vivisectionists?—Mr. GLADSTONE: If my honourable friend had defined what he means by "expert anti-vivisectionist" my answer would have been easier. I have already said that in my opinion the constitution of this Commission, in regard to which I have taken great pains, is fair to all the interests represented.

TUESDAY, OCT. 30TH.

Proposed Scheduling of Diachylon.

Mr. SAMUEL ROBERTS asked the Secretary of State for the Home Department whether his attention had been called to the cases of two women, Sarah Elizabeth Carford and Polly West, tried and found guilty of supplying dangerous pills containing diachylon at the Sheffield Quarter Sessions on Oct. 24th and sentenced to 12 and six months' imprisonment with hard labour; and whether, considering the increasing use of diachylon by women for certain purposes, he could see his way to have this drug and its preparations scheduled as a poison.—Mr. GLADSTONE answered: I have seen a report of the cases referred to by the honourable Member. I am informed that the Lord President of the Council is advised that to schedule diachylon as a poison would entail great inconvenience without attaining the object desired. It may be hoped that the convictions at Sheffield will serve as an effective deterrent.—Mr. ROBERTS: Will the right honourable gentleman take into consideration the increased use of this drug amongst women?—Mr. GLADSTONE: Yes, sir; but it is a difficult question.

Medical Inspectors in Scotland.

Mr. WEIR asked the Secretary for Scotland whether he was aware that while in Scotland there were five inspectors under the Public Health Act, only one of whom was a medical officer, there were in Ireland seven medical inspectors, and seeing that it was impossible for one medical inspector to overtake the whole of the work for Scotland, he would consider the advisability of arranging in next year's Estimates for additional medical inspectors for Scotland.—Mr. SINCLAIR replied: I cannot at present undertake to provide for the additional medical inspection suggested by the honourable Member.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta street, Covent Garden London, W.C.

Syphilology and Venereal Disease. By C. F. Marshall, M.D., M.Sc. F.R.C.S., late Assistant Surgeon to the Hospital for Diseases of the Skin, Blackfriars, formerly House Surgeon to the London Lock Hospital, Surgical Registrar to the Hospital for Sick Children, Great Ormond-street, &c. Price 10s. 6d. net.

Minor Maladies and their Treatment. By Leonard Williams, M.D., M.R.C.P., Physician to the French Hospital, Assistant Physician to the Metropolitan Hospital. Price 5s. net.

High Frequency Currents: their Production, Physical Properties, Physiological Effects, and Therapeutical Uses By H. Evelyn Crook, M.D., B.S. Lond., F.R.C.S. Eng., of the Middle Temple, Barrister-at-Law, Assistant in the Ophthalmic Department, West London Hospital, Member of the Röntgen Society, &c. Price 7s. 6d. net.

The Uses of X Rays in General Practice. By R. Higham Cooper, L.S.A., Medical Officer in Charge of the Radiographic Department at University College Hospital, Physician to the Electrical Department at Tottenham Hospital, Radiographer to the Evelina Hospital for Sick Children. Price 2s. 6d. net.

CONSTABLE, ARCHIBALD, AND CO., LIMITED, 16, James street, Haymarket, London, S.W.

Principles of Microscopy, being a Handbook to the Microscope By Sir A. E. Wright, M.D. Dublin, F.R.S., Hon. D.Sc. Dublin, Hon. F.R.C.S.I., Sometime Professor of Pathology, Army Medical School, Netley, Director in Medical Charge of the Department for Therapeutic Inoculation, and Pathologist, St. Mary's Hospital, London, W., Author of "A Short Treatise on Anti-typhoid Inoculation," &c. Price 21s. net.

Growth. A Novel. By Graham Travers (Margaret Todd, M.D.), Author of "Mona Maclean," &c. Price 6s.

F. A. DAVIS COMPANY, 1914-16, Cherry-street, Philadelphia, U.S.A.

A Treatise on the Motor Apparatus of the Eyes, embracing an Exposition of the Anomalies of the Ocular Adjustments and their Treatment with the Anatomy and Physiology of the Muscles and their Accessories. By George T. Stevens, M.D., Ph.D. Price $4.50 net.

FREDERICK A. STOKES COMPANY, New York. (B. F. STEVENS AND BROWN, 4, Trafalgar-square, London, W.C.)

Humaniculture. By Hubert Higgins, M.A. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., Demonstrator of Anatomy at the University of Cambridge, England, and Assistant Surgeon to Addenbrooke Hospital, Cambridge, England. Price 5s. net. Postage 3d

HARPER AND BROTHERS, Publishers, New York; and 45, Albemarle-street, London, W.

The Aristocracy of Health. A Study of Physical Culture, Our Favourite Poisons, and a National and International League for the Advancement of Physical Culture. By Mary Foote Henderson. Price 6s.

HILL, ORLANDO, W. F., 58, Berners-street, Oxford-street, London, W.

Dental and Other Jottings. By Chas. F. Forshaw, M.D., D.D.S. (National Medical University, Chicago, and Baltimore College of Dental Surgery). Price not stated.

HODDER AND STOUGHTON, 27, Paternoster-row, London, E.C.

Physical Diagnosis, including Diseases of the Thoracic and Abdominal Organs. A Manual for Students and Physicians. By Egbert Le Fevre, M.D., Professor of Clinical Medicine and Associate Professor of Therapeutics in the University and Bellevue Hospital Medical College. Second edition, thoroughly revised and enlarged. Price 10s. net.

Dental Materia Medica, Therapeutics, and Prescription Writing. By Eli H. Long, M.D., Professor of Dental Materia Medica and Therapeutics in the Dental Department, University of Buffalo. Second edition, thoroughly revised and enlarged. Price 15s. net.

The Pathology of the Eye. By J. Herbert Parsons, B.S., D.Sc. Lond., F.R.C.S. Eng., Assistant Ophthalmic Surgeon, University College Hospital; Assistant Surgeon, Royal London (Moorfields) Ophthalmic Hospital; Ophthalmic Surgeon, Hospital for Sick Children, Great Ormond-street. Volume III. General Pathology—Part I. Price 15s. net.

KING, P. S., AND SON, Orchard House, Westminster, London, S.W.

City of Edinburgh Charity Organisation Society. Report on the Physical Condition of Fourteen Hundred School Children in the City, together with an Account of their Homes and Surroundings. Price 5s. net.

LEWIS, H. K., 136, Gower-street, London, W.C.

Rough Notes on Remedies. By Wm. Murray, M.D., F.R.C.P. Lond., Newcastle-on-Tyne. Price 4s. net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London; 91 and 93, Fifth-avenue, New York; and Bombay.

The Wheel of Wealth: Being a Reconstruction of the Science and Art of Political Economy on the lines of Modern Evolution. By John Beattie Crozier, Author of "History of Intellectual Development," "Civilization and Progress," "My Inner Life," &c. Price 12s. 6d. net.

Essays in Pastoral Medicine. By Austin O'Malley, M.D., Ph.D., LL.D., Pathologist and Ophthalmologist to Saint Agnes's Hospital, Philadelphia, and James J. Walsh, M.D., Ph.D., LL.D., Adjunct Professor of Medicine at the New York Polyclinic School for Graduates in Medicine; Professor of Nervous Diseases and of the History of Medicine, Fordham University, New York. Price 10s. 6d. net.

NISBET, JAMES, AND CO., LIMITED, 21, Berners-street, London, W.

Experiments on Animals. By Stephen Paget. With an Introduction by Lord Lister. Third and revised edition. Price 4s. 6d. net.

OLIVER AND BOYD, Edinburgh.

The Transactions of the Edinburgh Obstetrical Society. Vol. XXXI. Session 1905–1906. Price not stated.

RUDEVAL, F. R. DE, 4, Rue Antoine Dubois, Paris.

Guide Pratique pour le Choix des Lunettes. Par le Dr. A. Trousseau, Médecin de la Clinique Nationale des Quinze-Vingts, Médecin en Chef de la Fondation Ophthalmologique Adolphe de Rothschild. Deuxième édition. Price Fr.2.

STANFORD, EDWARD, 12, 13, and 14, Long Acre, London, W.C.

The "Lloyd" Guide to Australasia, Illustrated. Edited by A. G. Plate. For the Norddeutscher Lloyd, Bremen. Price 6s.

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.

Syphilis du Poumon chez l'Enfant et chez l'Adulte. Par le Dr. Bérici, Ancien Interne des Hôpitaux de Lyon, Préparateur au Laboratoire d'Anatomie Pathologique. Price Fr.4.

TAYLOR AND FRANCIS, Red Lion-court, Fleet-street, London, E.C.

Calendar of the Royal College of Surgeons of England, August 1st, 1906. Price 1s.

TIPOGRAFIA GUTTENBERG, Este 4, Num, 4, Caracas, Venezuela.

Relación sobre el Tratamiento de la Fiebre Amarilla por el Metodo de Defensa y sobre sus Formas Clinicas observadas en Maracaibo y Caracas. Por el Doctor Manuel A. Dagnino. (Trabajo de Incorporacion al Colegio de Medicos de Venezuela leido por su Autor en la Sesion Extraordinaria del 4 de Junio de 1903 y publicado en la Gaceta Medica de Caracas, Año XI., Numeros 5 y 6, Abril de 1904.) Price not stated.

Sobre Fiebre Amarilla. Justificación de mi "Método de Defensa" en la Tratamiento de la Fiebre Amarilla. Trabajo leido en la Academia Nacional de Medicina. Por Manuel A. Dagnino, Doctor en Medicina, Académico de Número, Profesor de Clinica Médica en la Universidad Central de Venezuela, Médico del Hospital Vargas. Price not stated.

WHITTAKER AND CO., 2, White Hart-street, Paternoster-square, London, E.C.

Dissections Illustrated. A Graphic Handbook for Students of Human Anatomy. By C. Gordon Brodie, F.R.C.S., late Senior Demonstrator of Anatomy, Middlesex Hospital Medical School, Assistant Surgeon, North-West London Hospital. With plates drawn and lithographed by Percy Highley. Second edition, revised. Price 25s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BEAMAN, WINIFRED KELSEY, M.R.C.S., L.R.C.P., has been appointed Assistant Medical Officer to St. Mary's Hospital for Women and Children, Plaistow, E.

BOND, B. M., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Fulham and Hammersmith District of the county of London.

CURRIE, J., M.B. M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Lees District of the county of Lancaster.

HAWKINS, ARTHUR, M.R.C.S., L.R.C.P., has been appointed House Physician at the Royal Devon and Exeter Hospital, Exeter.

HENLEY, EDWARD WHISHAW, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Superintendent of the Gloucestershire Lunatic Asylum.

HUXTABLE, R. R., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at the Kent and Canterbury Hospital.

RENTON, JAMES M., M.B., Ch.B. Glasg., has been appointed House Surgeon at the Tottenham Hospital, London, N.

ROUS, J. BART, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Medical Officer to the Hampstead General Hospital, Haveratock-hill, N.W.

SHELDON, HUGH FREDERICK, M.R.C.S., L.R.C.P. Lond., has been appointed District Surgeon to the Ladybrand District of the Orange River Colony.

SINIGAR, H., M.D. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Southall District of the county of Middlesex.

STRATHEARN, J., M.B., B.S. Glasg., has been appointed Assistant Surgeon to the British Ophthalmic Hospital at Jerusalem.

WILKINSON, PERCY WILLIAM, M.B., C.M. Edin., has been appointed District Medical Officer by the Tavistock (Devon) Board of Guardians.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSLEY HALL ASYLUM, Bromsgrove, Worcestershire.—Senior Assistant Medical Officer and Deputy Medical Superintendent. Salary £200 per annum, with quarters, board, washing, and attendance.

BARNSTAPLE, NORTH DEVON INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 and fees.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Edmund-street. House Surgeon. Salary at rate of £70 per annum.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100.

BRADFORD ROYAL INFIRMARY.—House Physician. Also House Surgeon, unmarried. Salary in each case £100 per annum, with board and residence.

CANCER HOSPITAL, Fulham-road, S.W.—Surgical Registrar. Honorarium £26 5s. per annum.

CHEDDLETON, LEEK, STAFFORDSHIRE COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £150, rising to £200, with board, quarters, and washing.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £60 a year, with board, apartments, and laundress

COVENTRY AND WARWICKSHIRE HOSPITAL.—Honorary Ophthalmic Surgeon.

DORCHESTER COUNTY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £140, rising to £180, with board, lodging, &c.

ENNISKILLEN, FERMANAGH COUNTY HOSPITAL.—House Surgeon. Salary £52 per annum.

GLOUCESTER COUNTY ASYLUMS.—Junior Assistant Medical Officer. Salary £150, rising to £180, with board, apartments, and washing.

GLOUCESTER GENERAL INFIRMARY AND THE GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeoney for six months. Salary at rate of £30 per annum, with board, residence, and washing.

GUY'S HOSPITAL.—Gull Studentship in Pathology.

HALIFAX UNION POOR LAW HOSPITAL, Salterhebble.—Resident Medical Officer (female). Salary £100 per annum, with apartments, rations, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £90 a year, with board and lodging.

KING'S COLLEGE, London.—Demonstrator of Physiology. Salary £75.

KING'S LYNN, WEST NORFOLK AND LYNN HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

LINCOLN COUNTY HOSPITAL.—Senior House Surgeon, unmarried. Salary £125 per annum, with board, lodging, and washing.

LIVERPOOL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Pathologist and Assistant to the Honorary Medical Staff. Salary £150 per annum.

MEDICAL DEPARTMENT OF THE ROYAL NAVY.—Examination for not more than Six Commissions.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior House Surgeon. Salary at rate of £80 per annum, with board, attendance, and washing.

NOTTINGHAM, CITY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, &c.

PADDINGTON WORKHOUSE.—Assistant Medical Officer, unmarried. Salary £120 per annum, rising to £150, with board, lodging, washing, and uniform.

QUEEN'S CHARLOTTE'S LYING IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for Out-patient Department for four months. Salary at rate of £60 per annum, with board, residence, and washing.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Clinical Assistants.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, West Brompton, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 a year, with board, lodging, and washing.

SARAWAK, STATE OF.—Junior Government Medical Officer, unmarried. Salary £300 a year and free quarters.

TOTTENHAM HOSPITAL, London, N.—Assistant Honorary Physician.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.—Second Anæsthetist.

WINCHESTER, ROYAL HANTS COUNTY HOSPITAL.—House Physician, unmarried. Salary £85 per annum, rising to £75, with board residence, &c.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Chulmleigh, in the county of Devon.

Births, Marriages, and Deaths.

BIRTHS.

ALLAN.—On Oct. 25th, at Ardrossan, the wife of W. Carrick Allan, M.D., of a daughter.

FINLEY.—On Oct. 19th, at West Malvern, Worcestershire, the wife of Harry Finley, M.D. Lond., of a daughter.

FRENCH.—On Oct. 20th, at Porchester-gardens, Hyde Park, W., the wife of J. Gay French, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., of a son.

LAST.—On Oct. 22nd, at Bletsoe, Littlehampton, the wife of Cecil E. Last, M.R.C.S., M.R.C.P. Lond., of a son.

MAYBURY.—On Oct. 20th, at Hampshire-terrace, Southsea, the wife of Lysander Maybury, M.D., M.Ch., of twin sons.

MONTAGUE SMITH.—On Oct. 26th, at Kenninghall-road, Clapton, N.E., the wife of Montague Smith, M.R.C.S., L.R.C.P. Lond., of a daughter.

NICHOLLS.—On Oct. 27th, at Ellerslie, Eltham, Kent, the wife of Frank J. Nicholls, M.B., B.C., of a son.

POLLOCK.—On Oct. 19th, at Valletta, Malta, the wife of Major C. E. Pollock, R.A.M.C., of a daughter.

SPOONER.—On Oct. 26th, at Coupar House, Blandford, the wife of Wm. Caswell Spooner, M.B., &c., of a son.

MARRIAGES.

IRELAND—EILLS.—On Oct. 27th, at St. Bride's Church, Liverpool, by licence, by the Rev. Thos. Bishop, M.A., Vicar of Formby (uncle of the bride), assisted by the Rev. Francis Ireland, M.A., Vicar of Haydock (uncle of the bridegroom), and the Rev. Bernard C. Jackson, Vicar of the parish, James Aubrey Ireland, M.R.C.S., L.R.C.P., of Elmsyde, Allerton-road, Wavertree, to Netta, only daughter of John Lamport Eills, J.P., C.C., of this city.

KELLETT—STEPHENSON.—On Oct. 25th, at St. James' Church, Great Grimsby, by the Rev. E. Bullock, Vicar, assisted by the Rev. G. H. Harries, Winifred Margaret, fourth daughter of G. S. Stephenson, M.D., J.P., of the Manor House, Great Grimsby, and grand-daughter of W. Grange, Esq., Town Clerk, to Lieutenant Gilbert Hilton Kellett, R.N., son of the late W. Kellett, J.P., of Southport and Dalton-in-Furness.

THOMPSON—WANSEY.—On Oct. 27th, at St. Alban's Church, Streatham, Arthur Ralph Thompson, F.R.C.S., Demonstrator of Anatomy, Guy's Hospital, London, to Florence, daughter of the late Mr. A. H. Wansey, Solicitor, Bristol.

DEATHS.

CAMPBELL.—On Oct. 25th, at Gothic Villa, Jersey, John A. Campbell M.D., C.M., formerly Superintendent, Cumberland and Westmorland Asylum, aged 62 years.

CLEMOW.—On Oct. 27th, at Edith-road, West Kensington, Arthur Henry Weiss Clemow, M.D. Edin., M.R.C.P. Lond., aged 45 years.

SMYTH.—On Oct. 26th, at 3, Grosvenor-gardens, Tunbridge Wells, Spencer Thomas Smyth, M.D., F.R.C.S. Eng., eldest son of the late Admiral Spencer Smyth, R.N.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"THOUGHT-READING" AT THE ALHAMBRA.

"THOUGHT-READING" of a certain degree is nothing new. It is within the experience of most of us that a similar thought occurs to ourselves and to a companion at the same time, or that both of us may utter a similar sentence without such sentence being in any way a complement of anything that has gone before. Instances are known of two persons, though not living in the same house, dreaming similar dreams concerning circumstances in which they were both engaged on the same night. One instance which came under our own experience is as follows. It concerned a man and his wife, and one night the man dreamed that he went down to his drawing room in which there was an American organ. He sat down at the other end of the room and began playing the organ by willing it to play and was much interested in watching the keys go down as he thought out his music. In the morning his wife said, "I suppose you didn't go down to the drawing room last night and play the organ, for I dreamed you did?" Such instances, however, are rare. On Friday, Oct. 26th, a press performance was given at the Alhambra by two persons, a man and his wife, by name Julius and Agnes Zanzic. They are Danes but they speak English fluently. Their performance was certainly amazing, and although the inclination on witnessing such performances is always to suspect trickery or collusion we cannot see in this instance how the trickery, if there were any, came in. Houdin and other conjurors were accustomed to give exhibitions of so-called clairvoyancy in which the "tip" was given to the clairvoyant by a code of questions. Here, however, there was nothing of the kind. Agnes Zanzic stood on the stage and Julius wandered at random among the audience. He was given objects of various kinds, such as cigarette cases, cards, cheques, rings, and the like. He rarely said anything but "What is this?" or "Give me the number," or "The initials?" or "Describe it." In every case his wife immediately described the article correctly. If the object were a cheque she gave the amount and the number. Our representative handed Julius a cigarette case. "And this," he said. Mrs. Zanzic at once said: "A silver cigarette case." "Describe it," he said. "It has black lines," said his wife. "And the initials?" Immediately she gave them correctly. The cigarette case was one of Russian work with a niello pattern on it. The most astonishing test was the following. Sundry books were distributed to members of the audience who opened them at random and indicated a passage. Julius looked at the page and the sentence and Mrs. Zanzic gave the number of the page and repeated the first two or three lines of the passage. One person in the audience happened to have a book with him about the functions of the brain and a sentence from this was correctly given by Mrs. Zanzic. The performance is amazing whatever may be the explanation of the "way in which it is done."

AN APPARATUS FOR EXTENSION OF A SHORTENED LIMB.

To the Editors of THE LANCET.

SIRS,—I have been wearing an O'Connor extension apparatus for some years for a shortening of the limb due to hip-joint disease. I have heard that there is a German appliance which in some cases gives better results. I shall be grateful if you or any of your readers can give me some information.

I am, Sirs, yours faithfully,

Oct. 30th, 1906. X. Y. Z. (MEDICUS).

"MILK CURE."

To the Editors of THE LANCET.

SIRS,—Recently many cases of acute pain in the Ear came to me for cure. For years I have been curing such cases and I am glad to say that I am doing this with great success. There are many sufferers from this foul disease and persons outwardly strong and stout do get this ailment all of a sudden. At least they think so. Of course it cannot be so as the work of it must be going on for a number of days before it manifested itself. It is impossible for every sufferer to approach me, and generally the severity of the pain increases as night advances and one does not like to trouble anybody at such an hour (Doctors should be willing to help any sufferer at any time). I wish to communicate through your Medium a remedy which will at once lessen the severity undoubtedly. No sooner a man feels any kind of pain or a sensation to scratch, he should first of all avoid putting his finger, pencil, or any such pointed thing in the Ear. Being a sufferer for something like 7 years I know thoroughly well what the agony is and the act of putting a pencil will simply enhance it. I, therefore, suggest to all such men to get the milk of cow or she-buffalo and put it in the ear when cold. If it has been boiled, well and good; but at the time of using it it must be cold. I am not going to discuss here the cause of pain but I am sure that everybody will find that the milk boils on account of the accumulation of Animal Heat in and around the Ear. Throw this off after 5 minutes and repeat this 4 or 5 times at the same time. An observer will find that the milk does not become as hot at the fifth time as at the first. If he repeats this 10 times it will be better still. After an hour or so this whole procedure should be gone through again. To the surprise of the sufferer he will find almost complete

relief, and then he may consult a good doctor. I request men of the Medical Profession to use Milk as the First Aid in cases of Ear-Diseases. Of course in chronic cases further help of a Doctor is a necessity but I wish that every sufferer should get some relief before he seeks medical help. I have found out a remedy in Milk which is an article available in any cottage and if I learn from some persons that they used this **Milk Cure** with success when in need of it, and advised others, I shall feel amply rewarded. GADGIL.

Dr. Gadgil's Ear Dispensary, No. 40 Thakurdwar, Bombay.

*** We have been requested to publish this letter, which is supplied to us in type dated May 4th, 1906, and has possibly been sent to the press broadcast. "Dr." Gadgil may not have done much damage by his stupid and futile procedure, but that will depend on the character of the cases which he has seen. At any rate, he had better stop his experiments in aural surgery before he has a tragedy to answer for.—ED. L.

NURSES IN RUSSIA FOR THE MENTALLY INFIRM.

THE *Novoe Vremya* states that the Women's Hygienic Society of St. Petersburg proposes shortly to open special preparatory classes for nursing the mentally infirm. The instruction will be both theoretical and practical and will be given in clinics and hospitals and also in private houses.

A PATHOLOGICAL DIFFICULTY IN A DEATH AFTER CONFINEMENT.

To the Editors of THE LANCET.

SIRS,—The following case may be of interest to some of your readers, especially those in general practice. While acting as a locum-tenent recently I was called on Sept. 18th to see a married woman or girl (for she was only 16 years old) who had been confined ten days previously and had been attended by a certified midwife from the Plaistow Nursing Home. Seeing that the patient was in a hopeless state I told her family what to expect. Subsequently I was informed that another medical man was in attendance. The friends of the patient requested a death certificate from me, which I refused to give. By the coroner's order I made two days later a post-mortem examination in the presence of another medical man. I detached a portion of the placenta and removed a second loose portion. These and the uterus were shown to the coroner and his jury 13 hours after the necropsy. The inquest was adjourned and at the adjourned inquiry on Oct. 8th Mr. Angus Kennedy described the substance that I removed as a placenta succenturiata. I challenged this statement, and at a further adjournment on Oct. 15th Dr. John Phillips said that he had made a microscopic examination of the substance and found that it was only a blood clot. With the coroner's permission I took some of the disputed matter to the Clinical Research Association and I send you the certificate of the association in the shape of a cutting from the *News of the World* of Oct. 23th, which paper reported the case. Yours faithfully,

East Ham, Oct. 29th, 1906. E. MACWM. BOURKE.

*** The following is the certificate of the Clinical Research Association as extracted from the newspaper forwarded to us:—

"The specimen marked 'Mrs. ——, ——road, East Ham,' received here on the 15-10-'06, has been duly examined, and I have been instructed to forward the following report thereon:—

"This specimen consists of portions of placenta and blood-clot. The chorionic villi, [illegible] different stages of degeneration, are very typical, and show small areas in which fibrin has been deposited around them. This condition of white infarction is normal towards the end of pregnancy.—Signed, C. H. Wells, secretary of the Association."

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—I would be very much obliged if any of your readers could inform me if they know of any institution or home where a man, aged 39 years, of weak intellect, could be taken in. He could help to a certain extent in the house or garden. He is quite harmless and not certifiable. He can only afford 10*s.* a week, and that is the difficulty I find in getting any place for him to stay in.

I am, Sirs, yours faithfully,

A. A. HUMPHRYS.

51, Curzon-road, Muswell Hill, N., Oct. 29th, 1906.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 1st, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 26	30·252	S.	...	61	53	43	44	44	Foggy
,, 27	30·010	N.W.	0·04	55	54	44	48	50	Fine
,, 28	29·900	S.W.	0·03	63	55	47	46	47	Cloudy
,, 29	29·618	W.	0·31	77	54	41	40	43	Cloudy
,, 30	29·202	S.W.	0·42	56	50	42	48	49	Raining
,, 31	29·460	N.E.	0·39	55	52	44	45	46	Raining
Nov. 1	29·345	N.E.	...	56	53	44	49	51	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond street (3 P.M.).

TUESDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (7th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (8th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (10th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (6th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M.: Papers:—Dr. H. M. Evans: Weever Sting.—Dr. R. Williams: What is Jensen's Tumour?—Dr. F. S. Dawe: Fœtal Bone Disease.—Mr. E. M. Corner: A Contribution to the Pathology of the Sphincters in Vesical and Spinal Injuries.

WEDNESDAY (7th).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M.: Specimens will be shown by Dr. C. H. Roberts, Dr. Handfield-Jones, and Dr. H. R. Andrews. Short Communications:—Mr. A. Doran: Myomectomy during Pregnancy and Labour at Term in an Elderly Primipara, with Notes on Similar Cases. Paper:—Dr. W. R. Pollock: The Present Position of External Version in Obstetrics with a Suggestion of a New Method of Performing it.

THURSDAY (8th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M.: Papers:—Dr. R. Spencer: On the Treatment of Extra-uterine Pregnancy.—Dr. W. Harris: The Causation and Treatment of Some Headaches.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—8 P.M.: Card Specimens. 8.45 P.M.: Special Meeting to Discuss the Advisability of Joining in the Proposed Union of the London Medical Societies.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Specimens will be shown by Dr. J. H. Swanton and Mr. J. F. Jordan. Papers:—Dr. J. H. Swanton: Note on a Specimen of Cystoma of Ovary with Thyroid Tissue Present.—Dr. Aarons: Notes on the Medical Treatment of Uterine Hæmorrhage.

FRIDAY (9th).—WIMBLEDON AND DISTRICT MEDICAL SOCIETY (Worple Hall, Worple-road, Wimbledon).—9 P.M.: Dr. R. Hutchison: The Scientific Treatment of Dyspepsia.

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M.: Papers:—Dr. E. Diver: A Principle of Treatment Suggested for Some Untoward Fractures, especially of the Femur.—Mr. C. Symonds: Multiple Strictures of the Ileum, Resection, Recovery.—Mr. E. M. Corner: Rotatory Subluxation of the Atlas.—Mr. J. Clarke: Case of Congenital Deformity of the Spine.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (5th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—12 noon: Pathological Demonstration. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Diseases of the Eye. 5 P.M.: Lecture:—Clinical.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M.: Dr. J. M. H. MacLeod: Clinique. (Skin.) 5.15 P.M.,

Lecture:—**Mr. B. Harman**: Some Common Eye Affections caused by Sepsis of the Neighbouring Mucosa.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Sir D. Duckworth: Medicine. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

TUESDAY (6th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M.: Bradshaw Lecture:—Dr. S. J. Sharkey: On Rectal Alimentation.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Diseases of the Skin. 5 P.M.: Lecture:—Clinical.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. R. Cautley: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. D. Sommerville: Errors of Digestion in Relation to Disease.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. T. Hewlett: Medicine. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. J. Taylor: Paralysis in Children.

CHARING CROSS HOSPITAL.—4 P.M.: Dr. Mott: Demonstration (Medical). (Post-Graduate Course.)

CENTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Mr. Wells and Mr. Maclehose: Classes of Instruction in the Use of the Ophthalmoscope, with Demonstrations of Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M.: Pathological Demonstration:—Dr. B. Price: The Bacteriology of Lumbar Puncture.

WEDNESDAY (7th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. Diseases of Children. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. 5 P.M.: Lecture:—Gynæcology.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. M. Collier: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. G. A. Sutherland: Vomiting in Children.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. F. Taylor: Medicine. 3.15 P.M.: Mr. M. Robson: Surgery. 4 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Demonstration:—Dr. Abercrombie: Nose and Accessory Sinuses.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Demonstration:—Dr. S. H. Habershon: Selected Cases from the Wards.

THURSDAY (8th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M.: Fitz-Patrick Lecture:—Dr. N. Moore: The History of the Study of Clinical Medicine in the British Islands.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Diseases of the Eye. 5 P.M.: Lecture:—Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. J. F. H. Broadbent: Aortic Regurgitation in Later Life.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M.: Demonstration:—Mr. Gibbs: (Surgical). (Post-Graduate Course.)

CENTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn-road, W.C.).—8 P.M.: Lecture Demonstration:—Dr. C. O. Hawthorne: Medical Ophthalmology.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. Dockrell: The Solution of the Confusion between Pityriasis Rubra Pilaris and Lichen and the Treatment of each.

WEST END HOSPITAL FOR NERVOUS DISEASES (Welbeck-street, W.).—5 P.M.: Lecture:—Dr. T. D. Savill: On the Treatment of Hysteria and other Angioneuroses (illustrated by cases).

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M.: Lecture:—Mr. A. Doran: Fibroid Polypus and Allied Diseases.

FRIDAY (9th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Diseases of the Skin. 5 P.M.: Lecture:—X Rays, Diagnosis and Treatment (illustrated by lantern slides).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. W. Dodd. Clinique. (Eye.)

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Bradford: Medicine. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. F. Buzzard: Neuritis.

NORTH-EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M.: Lecture:—Mr. R. P. Brooks: The Conjunctiva and its Diseases.

SATURDAY (10th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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